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ORIGINAL COMMUNICATIONS.

FRACTURE OF THE BASE OF THE CRANIUM.*

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FRACTURE of the base of the skull, under its most favorable conditions, is always a grave injury. This lesion may occur when no fracture exists in any part of the cranial vault. The base may be fissured extensively without marked displacement. The fracture may involve one or both tables of the bone. It is well known that the prognosis in fracture of the skull is unfavorable in proportion to the greater extent of intracranial textures involved.

When the general and minute anatomy of the basilar structures are in the surgeon's mind, he realizes why it is that fractures occurring here are so often attended with fatal results. The contiguity of some of the most important cerebral tissues both in function and structure, and the inaccessibility of basal fractures to surgical treatment, are conditions which we think too often lead the surgeon to declare that their treatment is scarcely palliative. If we keep in clear view the relation of the textures involved in the lesion under discussion, we shall see both its diagnostic and prognostic significance.

We will note a few anatomical facts connected with the cerebral surface of the cranial base, as a needful preliminary to a better understanding of its lesions.

First, a brief anatomical reference to the three fossæ of each side of the base.

Some of the anatomical tissues of these fossæ are common to the three, while some are peculiar to each both in size, form, structure, and office. The anterior fossa has its own sutures,—viz., the ethmoido-frontal, ethmo-sphenoidal, and fronto-sphenoidal,—and holds the anterior lobe of the cerebrum.

It shows, in the median line from before backward, the beginning of the groove for the superior longitudinal sinus; here, too, is the olfactory groove, closely adapted to the bulb of the olfactory nerve; on the outer side of each olfactory groove are the openings of the ethmoidal foramina. In this fossa will be seen laterally the eminences and depressions for the convolutions of the brain, and grooves in which rest the anterior meningeal arteries.

The middle fossa varies slightly from the other two: in its boundaries it is related to the sphenoid, the anterior margins of the optic groove, behind by the upper border of the petrous portion of the temporal, and the basilar suture; outward by the squamous portion of the temporal and anterior inferior angle of the parietal bone. In this fossa, too, are the squamous, spheno-parietal, spheno-temporal, and petro-sphenoidal sutures.

In this part of the base is the optic groove, supporting the optic commissure, ending in the optic foramen, in which are the optic nerve and ophthalmic artery. Here are the folds of the dura mater which make the cavernous sinus. In this sinus are the internal carotid artery and the nerves of the orbit. Here are eminences and depressions for the middle lobes of the brain, and grooves for the branches of the middle meningeal artery, which divides on the outer side of the foramen spinosum into two, anterior and posterior, the anterior going to the inferior angle of the parietal bone, the other passing upward and backward.

In this part of the base are situated foramina, as the foramen lacerum anterius, for the passage of the most important nerves, as the third, the fourth, the three branches of the ophthalmic division of the fifth, the sixth, and the ophthalmic vein. Next come the foramen rotundum and foramen ovale, also transmitting important nerves and vessels.

The third or posterior fossa, the largest of the three, and situated on a lower level, is so placed and is so filled with important structures as to render basal fractures more perilous to life in this location than in any other part of the skull. Its formation involves the occipital, petrous and mastoid portions of the temporal, and the posterior inferior angle of the parietal bone. This fossa is crossed by three sutures, and lodges the cerebellum, pons Varolii, and medulla oblongata. In its centre is the foramen magnum, behind which is the inferior occipital fossa, which

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holds the hemisphere of the cerebellum. Here also is seen the place for the falx cerebelli and the occipital sinus.

It will be seen by this reference to the basilar anatomy of the skull that it would be exceptional should a fissure or fracture occur in the base with the least displacement of fragments, especially of the inner table, from its immediate proximity to vital tissues, without giving rise to a most formidable lesion either directly or indirectly.

This would hold true of either fossa. Here is an instance where the slightest injury may arrest function of a vital texture. A fissure here can scarcely exist without producing from the slightest to the most extensive disruption of the dura in its linear track. Such a lesion may possibly for a time be unattended by symptoms; but sooner or later signs of intracranial morbid disturbance will appear.

We have said that a fissure in this region would be followed by some disruption of the dura-matral tissue at the site of the lesion, which may be expected to prove its existence in a short time by the occurrence of cerebral symptoms.

It should be remembered that direct leakage of blood or serum or both, be it never so slight, cannot remain here without causing pressure on tissues which will not tolerate it safely, and so in the later exudative products of inflammation. Is it said that fissure of any part of the base of the skull is a harmless lesion? This may be true in some rare examples, when it is restricted to the superior part of the vault, but our observation is that in fissure of the basilar portions, or in cases where the fissure extends from the vault into the base, earlier or later it is followed by morbid cerebro-meningeal processes.

In proportion as the fissure approaches the base, as in fracture of one or both tables, with much or little displacement of fragments, is the prognosis more unfavorable. Frequently these fissures and fractures involve the sutures at varying angles as well as in the line of their dentation, and a fissure here, with more or less lesion of the lining of the bone, is often attended with more grave results than the same extent of this injury in the coronal parts of the skull.

These injuries often implicate textures in which are nerves of special sense, either at their origin or in their course, shown by complete loss of vision, oftener in one eye than in both; in our records also occur instances of total deafness in one ear, loss of smell, impaired deglutition and speech.

I do not believe, as claimed by some surgeons, that fracture of the base is always attended by fissuring of the vault. They may coexist, as already stated, but it is equally true that the lesion in question does exist when there is no fissure in the vault.

In fissure of the outer table, without immediate symptoms of deeper lesion, it has resulted more than once under the writer's eye that fracture of the inner table existed with displacements of fragments followed by cerebral symptoms and death of the patient, as appeared from the autopsy.

Fissure of a cranial bone may exist and be followed by good repair, but our point is that if fissure exists in any part of the skull, especially in its base, it should be carefully watched, so that at the first appearance of intracranial symptoms the question of operation might be at once considered. We repeat, that fissure of the base at any point is more liable to be accompanied with serious lesion than when restricted to the vault alone.

We concede that fracture of the inner table alone is of rare occurrence; but that it does result from or is connected with fissure of the outer table, and that of multiple form, has been abundantly shown in the autopsies of patients dying of fracture of both the base and the vault.

Fractures of the base are caused by either direct or indirect force. Among the direct are punctured wounds made by pointed instruments and such as are conically shaped. These may puncture the skull in the upper part of the orbit or through the nose.

A strong blow upon the under part of the chin may drive up the condyles of the jaw so as to puncture the glenoid fossa. Two examples of the latter came under the care of the writer. In three other instances of our observation, blows received upon the nose fractured its bones, comminuting also the cribriform plate of the ethmoid bone. The fragility of these, as well as of the body of the sphenoid, favors their ready fracture.

Our own records show a larger number of these fractures caused by both direct and indirect application of force, as when the patients were thrown from carriages while in rapid motion, falling, too, from elevated situations, striking upon the side

of the head, or upon the upper part of the vault. Our records remind us of three examples of this fracture caused by the falling of the patients from a height, one striking upon the lower part of the body, and another jumping from a building, striking directly upon both feet, with his body erect at the time. In these examples the lesion was indirectly produced. Several examples from our notes show that they were caused by the kick of a horse, in one of which the force was received behind the upper part of the ear, as well as quite above and in front of the latter, with only contusion of the scalp, without crepitation or displacement of the external table.

Again, in a more direct way, the kicking and stamping of a horse upon the upper part of the head has produced compound comminuted fracture, the latter being most extensive in the inner table.

A healthy man, aged 40 years, was thrown from a sleigh while the horses drawing it were running in fright down a steep hill. He was taken up and carried to a near house while insensible. He was seen immediately by a surgeon, who reported his case as follows. There was no external injury of the scalp nor of the bones of the vault to be detected, nor any other bodily injury; he was unconscious still; pulse 90, feeble and unsteady; temperature sub-normal; both pupils dilated; feeble, sighing respiration. On the second day his pulse was 80, and fuller; temperature 100°; breathing slower and louder; involuntary discharge of urine; deglutition impossible. This is the history of the case up to the beginning of the third day, when I first saw the patient. Within the last six hours the temperature had arisen to 103°; respiration unsteady, abnormally slow, and then hurried. Diagnosis: basilar fracture of the skull. The patient remained unconscious; respiration alternately slow and quick; enemata in the rectum were not retained; no fæcal discharge from the intestinal canal; no discharge of urine for the last day; the patient dying a little more than five days from the receipt of the injury.

Autopsy six hours after death. Thinly-diffused pericranial coagula were found over the superior anterior part of the right parietal bone, and a larger blood-extravasation between the bone and dura corresponding to the site of the pericranial bleeding; near the centre of the right middle cerebral lobe was a coagulum more than half an inch in extent; at the base of the opposite middle cerebral lobe was a small blood-clot; the right lateral ventricle contained a half-drachm of bloody serum.

A little under the clot of the dura mater was an effusion of bloody serum into the arachnoid sac for considerable extent. The lesions of bone were two fissures: one beginning at the superior and posterior part of the right parietal, the other at the anterior upper part of the occipital bone; the first terminating in the middle of the right cerebral fossa, the second reaching the posterior part of the same fossa, and in the line of each fissure were thin, narrow coagula.

Careful examination revealed minute contusions, more plainly visible in the middle cerebral lobe on the right side. A fracture was found running transversely through the floor of the right fossa, with displacement of one-eighth inch, with several small spicula of the inner table, three of which were piercing the dura-matral tissue.

In eight cases of autopsy by the writer of the fracture in question, the degree of displacement of fragments was nearer alike than lesions of the inner tissues. In all but three examples the bony displacement was so slight as to have been overlooked but for a careful, minute dissection; but in these there was scarcely an exception in the line of the fissure, from the smallest to a larger disruption of the soft tissue, over and along the linear track.

The examples of greatest displacement involved the temporal and occipital bones in their basilar portions: in the former were three fragments, in the latter two, the greatest displacement being in the temporal.

This exemption from displacement is restricted to the lesion when more distinct from fractures of both the vault and base combined, as seen in the examples produced by great crushing weight upon the head, resulting in extensive displacement of fragments both of the vault and base.

In searching for the symptoms of basal fracture, there being so little displacement of fragments (especially in the cases from indirect force), the signs detected by the touch or vision are less positive than accompanying fractures of the vault. While

we are to depend in part upon rational signs, there are a few visible symptoms. No one of these is more reliable than bleeding from the ear, persistently followed later by a steady aqueous discharge.

Hemorrhage from the nose and from the pharynx is also present in this fracture in some cases. The value of persistent bleeding from the ear, as well as the watery discharge later, and in some degree the same from the nose, is in the evidence they furnish of lesions within the cranium that allow these discharges to find their outlet through the natural passages, and in rare instances a discharge of brain-substance, as has been witnessed by the writer, from the nose.

Orbital ecchymosis soon after the receipt of an injury upon the head may be considerable, and not necessarily evidence of basal fracture unless persistent with the symptoms of intracranial lesion. This form of bleeding, with a later subconjunctival effusion, would more likely indicate that a fracture, if any, was in the anterior basal region.

Fracture of the orbital plate of the frontal bone may exist without signs of extreme hemorrhage, for the evidence of basal fracture may be strong in its absence. Following at once, a free bleeding from the mouth after an injury upon the head cannot be evidence of fracture of the base in the absence of other symptoms. This would be true, too, of bleeding from the nose, but when associated, if not primarily with the supervention of cerebral symptoms, with a watery leakage, it would be quite certain that a basilar lesion existed.

Early continuous bleeding from the ear in from three to four days after the receipt of the injury is the most reliable symptom of fracture of the base, when attended with cerebral symptoms.

Under our observation, a freer bleeding at first, ceasing within a few hours, is a less positive sign of fractured base than when the bleeding is more moderate at first, but continues steadily for a longer time. In our record of twenty-two cases of this fracture, three of the recoveries bled moderately from the ear for seven days, followed in two of them by an aqueous discharge from four to five weeks.

The situation and course of the fracture will determine the tendency to hemorrhage: when it traverses the petrous bone it would be likely to be profuse, and yet, in an instance of fracture of this bone which proved fatal, the bleeding was free at first, but soon became moderate in quantity. The line of fracture was shown in the autopsy.

How far is a watery discharge from the ear coming on from three to four days after the receipt of the injury, where there has been no bleeding from the ear, a sign of this fracture? With cerebral symptoms, it would be as reliable as bleeding alone. How often in recoveries from this lesion in which there was early bleeding from the ear, ceasing in two or three days, has a watery discharge followed? We answer, in three out of five in our cases.

Keeping in mind the anatomy of the base, especially of its foramina, it follows that nerves passing these are often paralyzed in this fracture, and this is to be regarded as a symptom of importance.

One or more of the symptoms noted bear directly upon the diagnosis of basal fracture. It should be kept in mind that these fractures come largely of diffused force, identified with vibratory impulse, in examples free from all signs of external injury, but among these conditions is early concussion, while a little later compression is marked.

It should be kept in mind that some of these cases are identified with radiating fissure of the vault, and as these reach the textures of either basilar fossa they will cause lesions of their contents, producing symptoms of which we have spoken, and thus are all factors of diagnostic significance.

The prognosis in this fracture, which generally is unfavorable, will depend, as in fractures of the vault, upon the extent and kind of intracranial tissues involved. Were it the rule that displacement in basal fractures approximated in a small degree that which belongs to the average of vault-fractures, it would leave the prognosis of every case unqualifiedly bad.

It is held by some surgeons that the longer the bleeding or the aqueous discharge continues from the ear, the more unfavorable is the prognosis; and, again, it is declared that when these discharges are blended in the same case, it is a fatal symptom outright. We have said that both bleeding and the discharge from the ear of an aqueous fluid, under certain qualifications, are reliable diagnostics of the grave lesion in question.

In the clinical history of my own cases

are two examples in which recovery took place, in one of which the aqueous running continued three months, in the other after a daily discharge for four months there was a recurrence at intervals of from two to three and four days, when it stopped at the end of four months and a half from the receipt of the injury.

In the former patient the recovery was complete, with the exception of profound deafness in the right ear; in the latter the physical recovery was good, except total loss of sight in the right eye, with lasting weak-mindedness.

Having always before us the anatomical structures, with their physiological offices, involved in this form of fracture, with the little displacement of bone-fragments, the recovery of cases under my own eye leads me to believe that the prognosis is more favorable than the opinions of some surgeons would warrant.

Treatment.—Considering the average of the more strictly basal form of the lesion we are considering, the immediate concussion, which means cerebral contusion alone or combined with positive signs of brain-pressure, requires the more immediate care of the surgeon, bearing in mind that these examples do not all prove fatal, therefore they should be treated as in vault-fractures in which there is slight if any displacement of bone.

In the examples combining vault- and basilar-fracture in which there are multiple fragments with more or less displacement, especially in the latter, when they are driven through the dura mater, lodged in the cerebral tissue low in the temporal and occipital regions, and they cannot be removed without the trephine, it should be applied as low as the basilar portions of the bones, as a less risk than leaving what is now so much foreign material—as the fragments of bone, torn membranes, and cerebral tissue—soon to take on pathological changes. In my own record of cases is an example of compound multiple fracture involving the middle inferior portion of the right temporal bone and right lateral inferior part of the occipital bone: the patient, a middle-aged strong man, with marked symptoms of compression of brain; temperature 103°; pulse strong and 55; contused lacerated wound of scalp on the right side of the head, anterior to the upper part of the ear, with crepitation to light touch; the patient unconscious.

These were the conditions first seen by the writer at the end of the fourth day of the injury, caused by the kick of a horse. Diagnosis: fracture of the inferior part of the vault, reaching the base. Treatment: enlarging the wound, when three fragments were detected, two of which were an inch in size, the third half as large; the anterior involved a portion of the lower middle part of the parietal, the remainder was a part of the petrous bone; the smallest and lower one came from the parietal; the other large fragment embraced a small part of the posterior inferior parietal and the anterior and lower part of the occipital bone.

With care, the two anterior fragments were removed by traction, but the third more basilar one was so firmly locked that it could only be removed by taking out a small crown-piece with the trephine. The abundant coagula with the small spicula from the inner table were removed, and the wound dressed. At once, after the removal of the occipital fragment and blood, the breathing was less stertorous, and the pulse rose to 80, but with no return of consciousness, the patient dying six hours after the operation. No other lesions were detected. There was no autopsy.

I have given the clinical details in this instance to show that no special hindrance was met in applying the trephine so near its basilar portion, and in removing the entire mass of foreign material causing immediately the grave symptoms of pressure in this case.

Should not this operation have been made at once after the receipt of the injury in the presence of such profound symptoms of cerebral pressure?

We submit a few points suggested in the paper just read.

First. The anatomy and physiology of the base of the skull render its fracture more fatal, independently of their inaccessibility to direct surgical treatment, than when the lesion is restricted to the cranial vault.

Secondly. The symptoms determining the diagnosis in basal fracture are caused by meningeal and cerebral lesion involving the origin of nerves or their continuity, often both, as well as lesion of blood-vessels.

Thirdly. While the displacement of fragments in this fracture is but little in the majority of cases, it will be more in

the minority; and it is not uncommon, when the displacement is not detected in the outer table, that the inner will be comminuted and the fragments lodged in the subcranial tissues, with blood-extravasation.

Fourthly. In the majority of examples of this fracture the symptoms of cerebral pressure are plainly marked; if not early, they appear only a little later, and yet so early as to prove that they are the immediate result of the injury, rather than from inflammatory products which appear later.

Fifthly. When the fracture involves the lower part of the parietal bone and the temporal with its petrous portion if compound, or only contusion of the part receiving the blow or force with marked symptoms of this fracture, an incision made at or over the site of the bruised scalp will aid in detecting the extent of the injury.

Sixthly. If fragments of bone or blood can be reached, remove them; and if there be slight or greater displacement, with positive symptoms of pressure which cannot be removed, then apply the trephine, elevate the depressed bones, and if there be blood, remove it.

Seventhly. In this fracture, when caused by the direct application of force, as may be in the frontal sinus and in the proximity of the base of either fossa, with positive symptoms of brain-pressure, the hopeless condition of the case left to the expectant treatment, if there be no opening through the soft coverings of the bone at the point receiving the injury, warrants making an incision for exploration, that its cause may be better defined, and if it cannot be removed without, then use the trephine.

Eighthly. In all cases, if the operation of trephining is to be made, it should, as in vault-fractures, be done at once after the receipt of the injury, to shorten the time of pressure upon vital textures, and before inflammation has occurred.

REPORT ON THE PROGRESS OF DERMATOLOGY.

BY ARTHUR VAN HARLINGEN, M.D.

(Continued from page 821.)

PART II. THERAPEUTICS.

HYPERIDROSIS.—The German army surgeons recommend an ointment composed of two parts of pure salicylic acid to ten parts of the best mutton suet for the benefit of soldiers suffering from sweating feet or soreness in riding.

TINEA TONSURANS.—The formulæ for the treatment of this affection show no sign of diminution in number. New ones appear in the journals almost weekly. We give a selection.

Harrison recommends the application of the following solution to the closely-clipped scalp at the points affected:

℞ Potassii iodidi, ʒss;
Liq. potassæ, fʒj. M.

This should be sopped on with a pledget of lint once daily, and when dry the following solution should be applied at the same points:

℞ Hydrarg. bichlor., gr. iij;
Aquæ, fʒj. M.

The theory is that the liquor potassæ dissolves the fatty matter on the surface, and permits the penetration of the iodide of potassium into the follicles. Here it is reached by the bichloride of mercury; a double decomposition takes place, and iodide of mercury is found just where it is wanted as a parasiticide. We fear, however, that this very ingenious compound application would be found to fail in practice.

A somewhat similar preparation is the following:

℞ Hydrarg. chlor. miti, ʒj;
Tinct. iodini, fʒj. M.

Let it stand a few days, shaking frequently. Paint on with a brush. One or two applications, it is said, will suffice, so that this remedy is easily applied.

The following is an old friend in a new combination:

℞ Thymol, ʒj;
Chloroform, fʒss;
Ol. olivæ ad fʒij. M.

Sig.—Apply with a camel's-hair brush, after cleansing the part well.

The following is said to be a cleanly and efficient remedy in ringworm of the thigh:

℞ Acidi salicylici, gr. 1;
Ichthyolici, ʒiss;
Alcoholis, fʒj. M.

Rub in with a stiff brush twice daily, and afterwards dust with starch.

SCABIES.—Comessati recommends the following ingeniously conceived treatment:

A solution is prepared containing four ounces of hyposulphite of sodium in one

pint of water, and the whole body is washed with this in the evening. Next morning the skin is sponged with dilute hydrochloric acid, one ounce to the pint of water. Sulphur, sulphurous acid, and chloride of sodium are formed, and the disease, says Comessati, is in most cases cured by a single application. Let those who are taken with subtly-conceived pharmaceuto-chemical decompositions pin their faith to this. The reporter has given this treatment a fair trial in one well-marked case of scabies, and has found no improvement in a week's treatment, when naphthol subsequently proved effectual after a few applications.

LACTIC ACID FOR THE DESTRUCTION OF PATHOLOGICAL TISSUES. — Mosetig-Moorhof (*Cbl. f. Chir.*, No. 12, 1885) found that concentrated lactic acid applied to fungous granulations reduced them to a blackish mass. This led him to try experiments in the treatment of other new growths, in which he found that this caustic would destroy the new growth while leaving healthy tissues intact.

The lactic acid is applied upon bits of lint or absorbent cotton (care being taken to wipe the surrounding tissues dry) and covered with waxed paper, which is then bound down upon the spot. Another mode of application is in the form of a paste made by the addition of silicic acid, which is spread upon the diseased part to the thickness of about one-sixteenth of an inch. After twelve hours the application is removed and the wound cleansed with pure water. After twenty-four to forty-eight hours' rest to prevent too severe inflammation, the caustic application is renewed. The caustic is not particularly painful. Five to seven applications were enough to destroy and heal a lupus. Mosetig-Moorhof recommends the treatment in lupus vulgaris, fungous growths of the skin, rodent ulcer, and papilloma. The great advantage claimed for lactic acid is that it spares healthy tissues, unlike the ordinary caustics, which destroy friend and foe alike.

ECZEMA AND SO-CALLED ECZEMA OF THE NASAL OPENINGS.—Lublinski says that two distinct processes occur in this region which are often confounded with each other. One of these is sycosis affecting the hair-bulbs about the nostrils, or inflammation with suppuration of the follicles. This form is naturally most common in the male sex, but is also met with in women and children. From the introitus the eruption may spread up the mucous membrane and also upon the neighboring skin. The second form is purely eczematous: the incipient stage of this can be observed after almost any severe "cold in the head." The treatment consists in the removal of all crusts and the application of ointments smeared over cotton plugs, which are inserted into the nostrils. In sycosis our author recommends the following:

℞ Hydrarg. precip. alb.,
Bismuth. subnit., āā gr. xv;
Vaselini, ʒiiss.

Sycosis of the nose, he says, can be healed in from eight to fourteen days by this method.

In acute eczema anything like overstimulation is to be avoided. The tampons of cotton are in such cases to be smeared over with the following ointment:

℞ Bismuth. subnitrat.,
Pulv. zinci oxidi, āā gr. xxx;
Vaselini, gr. cc. M.

In scrofulous children cod-liver oil or syrup of the iodide of iron is given internally.

ECZEMA OF THE SCALP.—Borax, says Deligny (*L'Eczema*, Paris, 1885), is the best application in scaly eczema of the scalp, not only in cleansing the head, but in arresting the desquamation. Michele recommends:

℞ Sodii biborat., gr. cl;
Alcoholis,
Aquæ rosæ, āā fʒiv. M.

Boric vaseline is an excellent preparation which is often employed at the St. Louis Hospital:

℞ Pulv. acid. boric., ʒiss;
Vaselini, ʒj;
Bals. Peruv., gr. viij. M.

Besnier applies two or three folds of thin muslin wet with starch-water, a teaspoonful to the quart of water, and covers this with a rubber cloth in crusted eczema of the scalp. If there is fœtor, he adds seventy-five grains of boric acid to the quart of water. When all inflammation has disappeared, he recommends the addition of fifteen grains of sulphate of copper to the quart, to be used with discretion.

Resorcin in Skin-Diseases.—Ihle (*Monatshefte f. Prakt. Derm.*, December, 1885, p. 425), after criticising the indiscriminate manner in which this remedy was for a time lauded, and alluding to the undeserved oblivion into which it seems of late to have fallen, recommends it highly in tinea circinata and tinea sycosis. He uses the following paste:

℞ Resorcin purissim., gr. xl;
Vaselini albæ, gr. cc;
Pulv. zinci oxidi,
Pulv. amylis, āā gr. c. M.

This forms a paste. If the percentage of resorcin is increased, that of the oxide of zinc and of the starch must be diminished, as in the following formula:

℞ Resorcin purissim., gr. cc;
Vaselini albæ, ʒiv;
Pulv. zinci oxidi,
Pulv. amylis, āā ℈iv. M.

A little carmine may be added to give the paste a flesh tint, because the ointment otherwise gives a blue color to the skin.

This paste of resorcin should be employed weak at first, and in gradually-increasing strength as the patient is found to bear it. It is painted on the skin in successive layers every day or so, the hair of the beard being cut close, but not shaved. If we understand Herr Ihle correctly, it must not be washed off; certainly not until absolutely required.

Ihle has also used this remedy with success in other vegetable parasitic diseases. Any one who finds himself short of remedies for these affections may add resorcin to his list.

The following formula is recommended in "seborrhœa" with falling of the hair (our pityriasis):

℞ Resorcin, gr. x–xv;
Olei ricini, fʒiss;
Alcoholis, fʒv;
Bals. Peruvian., gr. j. M.

Sig.—Rub into the scalp daily with a bit of flannel.

Ihle has noticed that under the use of this application not only the hair ceases to fall out and becomes more and more thick, but that the annoying pruritus ceases at once.

In condylomata acuminata a fifty- to eighty-per-cent. ointment of resorcin applied daily will by the end of the third day give a white surface, which indicates a superficial necrosis, and can be scraped away in a tolerably thick layer. The operation can then be repeated, and it will be found that even large cauliflower-growths are quickly and painlessly removed by this method. The tendency to relapse remains, however, and must be combated by the application of weaker ointments (five to ten per cent.) of resorcin.

In long-continued applications it is desirable to protect the neighboring skin, as resorcin has an irritating effect after long use.

Ihle has observed toxic symptoms from absorption in only a single case. This was that of a little girl three years of age, in whom after a single application of a five-per-cent. ointment to the scalp somnolence was produced. This disappeared, however, in the course of the treatment. Ihle has never observed toxic symptoms in the adult, even when concentrated resorcin ointments have been applied for some time over large areas.

Pyrogallic Acid in Dermatology.—Allen (*Jour. of Cutan. and Venereal Dis.*, 1886, p. 8) gives a résumé of our knowledge of the use of pyrogallic acid in skin-diseases. In lupus vulgaris Besnier applies a saturated solution of the acid in ether or a spray of the same. This he covers at once with a gutta-percha solution. The applications are to be repeated until all lupus-points have disappeared from the cicatrix. The acid, as is known, attacks the diseased tissues by preference, sparing the normal and cicatricial tissues.

In a case of tylosis of the feet with deep cracks and a villous condition of the epidermis, Allen applied a solution of pyrogallic acid in liquor gutta-perchæ, one drachm to the ounce, with very good effect.

Occasionally pyrogallic acid may produce toxic symptoms, though no such cases have been reported in this country. The symptoms of poisoning by pyrogallic acid are detailed by Allen, who goes on to say that now and then pyrogallic acid may produce a severe local effect on the healthy tissues themselves, causing sloughs and ulcerations. Occasionally after using pyrogallic acid for some time, much pain is complained of, and the tissues become inflamed. It is always well in this event to cease its application for a time and substitute some bland ointment.

Pyrogallic acid should never be com-

bined with an alkali, which would neutralize it; nor with a metal, which it would reduce. Vaseline is the best excipient. When the animal fats are employed, the ointment should be put up in small quantities, as decomposition soon ensues. Allen also uses in psoriasis a collodion containing forty grains of pyrogallic acid to the ounce, with eight to ten drops of castor oil.

TREATMENT OF ERYSIPELAS.—At a meeting of the Clinical Society of the New York Post-Graduate School (Quarterly Bulletin of the Society, New York, 1885, p. 74), the subject of erysipelas being under discussion, the following forms of treatment were recommended by various practitioners.

Dr. Partridge thought the best treatment was general support and stimulation, constitutional symptoms being treated as they arise. A saline cathartic may be employed, with local depletion of the blood-vessels to relieve tension where it is great, and quinine when the temperature runs high. He considered abortive and specific treatments useless.

Dr. Roosa considered the antipyretic use of quinine useless and dangerous. He would use no medicine but a purgative if necessary, relying on good air, food-stimulation, and attention to the comfort of the patient. Locally he would use the lead-and-opium wash.

Dr. Seneca D. Powell was in the habit, if the patient had a full, bounding pulse, of giving the following:

℞ Liq. ammon. acetatis, f℥j–iv;
Spirit. ætheris nitrosi, f℥–iij;
Tinct. aconit. rad., gtt. j–iij.

To be taken every two hours.

Instead of the officinal tincture of iron, which contains both nitric acid and water, he uses the following, which contains neither:

℞ Ferri oxidi nigri, ptes iij;
Acid. hydrochloric., ptes x;
Alcoholis, ptes xxx. M.

In debility, alcohol freely. Locally lead-and-opium wash applied hot, and the compresses covered with oiled silk. If this does not relieve the inflammation, heat applied by hot bran bags.

Dr. Von Ramdohr had seen the progress of the erysipelatous blush apparently checked by the injection of a three-per-cent. solution of carbolic acid into the sound tissue near the margin of the disease. Sixteen injections were made, and, though very much reduced at the time, the patient recovered.

Dr. Leszynsky had seen a case of facial erysipelas in which the compound tincture of benzoin applied locally as a means of limiting the disease had seemed to have a good effect.

Dr. F. B. Carpenter considered aconite abortive in the sthenic variety.

Dr. H. G. Lyttle uses iodoform and collodion, a drachm to the ounce, as an external application. In erysipelas of the scalp in children he had made use of the white-lead paint, which undoubtedly relieves the irritation and scratching, while the spread of the inflammation is checked.

Dr. C. H. Brown uses the following—

℞ Camphor, ℥iij;
Tannin, ℥ij;
Ether, ℥j. M.

—as a local application, and thought that when the part is freely painted with it, it limits the disease and relieves the pain.

Dr. John H. Nesbit said that tincture of the chloride of iron is of invaluable service in simple facial erysipelas, but in the other forms it does more harm than good, invariably inducing disturbances of digestion. Locally the most useful preparation is a wash prepared freshly from powdered opium, applied hot. A solution of nitrate of silver, half a drachm to a drachm to the ounce of water, stops the spread of the disease in every case, and is a very valuable remedy.

Dr. Satterthwaite uses collodion, painting a band an inch or two wide around the limb at some distance above the line of inflammation. After the first coating has dried, the operation is repeated three or four times, and the result is constriction of the integument, which appears to compress the superficial lymphatics and so limit the disease. For the phlegmonous form he uses olive-oil, rubbing it in every day.

COLLAPSE AFTER THE ADMINISTRATION OF ANTIPYRIN.—A dose of thirty grains of antipyrin, followed three hours later by one of fifteen grains, led to fatal collapse in a woman suffering with hyperpyrexia after abortion. Blore, who reports the case, attributes the fatal result to the rapid decline in temperature. — *Wiener Med. Wochenschrift.*

THE OPHTHALMOSCOPE FOR THE GENERAL PRACTITIONER.

Read before the College of Physicians of Philadelphia, April 7, 1886,

BY EDWARD JACKSON, M.D.,

Chief of the Eye-Clinic in the Philadelphia Polyclinic.

THE want of a form of ophthalmoscope specially suited to the needs of physicians who do not make the objective measurement of refraction an important part of their professional work has been an obstacle to the more general practice of ophthalmoscopy. It is not my purpose this evening to announce the invention of an instrument to meet this want, but briefly to discuss and to incite to discussion of what should be the characteristics of such an instrument, that there may be better appreciation of a standard to guide practitioners in choosing among instruments now extant, and inventors among modifications that are possible in the future.

"The physician," says Hughlings Jackson, "is quite as much indebted to Helmholtz as the ophthalmologist." There is exaggeration in the statement; but under the exaggeration lies this truth: the physician's obligation to the inventor of the ophthalmoscope is great. How great we do not yet know; but some appreciation of it will be gained by a careful examination of such treatises as Gowers's "Medical Ophthalmoscopy," or Dr. William F. Norris's very condensed article on medical ophthalmology in Pepper's "System of Medicine." The direct value of the ophthalmoscope in the consulting-room has been strenuously insisted on and often illustrated. I will not dwell on it now; only let me remind you of the indirect importance of its use as a means of training eye and brain for diagnosis in general. All schemes of education recognize the high value of some studies as means of mental development and discipline. For training the powers of observation and reasoning that must ever characterize the acute diagnostician, I think the practice of ophthalmoscopy is unequalled. In it the student is incited to the certainty and exactness of microscopical research, yet must ever consider the personal diversities of patients. Then there is the wonderfully impressive character of the phenomena studied with the ophthalmoscope. In the words of Dr. Loring, "With it, it is like walking into Nature's laboratory and 'seeing the Infinite in action,' since by its means we are enabled to look upon the only nerve in the whole body that can ever lie open to our inspection under physiological conditions, and to follow in a transparent membrane an isolated circulation from its entrance through the arteries to its exit through the veins. We are further enabled to study daily, or even hourly, morbid processes in each and every phase." These morbid processes are not only important in themselves; they have their close analogues in every organ and in almost every tissue of the body. The value of this close study of pathology, of gaining insight, of getting into sympathy by close contact with natural processes, healthy and morbid, can hardly be overestimated. Well might the great German pathologist exploit the ophthalmoscope, and wish that the methods of ophthalmology might be adopted in other branches of medicine. I submit the proposition that the more general use of the ophthalmoscope would tend toward such a desirable advance.

The instrument suited for this general use must have *a few well-chosen lenses:* say, convex, one, two, three, and five dioptrics; concave, one, two, four, six, and ten dioptrics. Only these few are necessary. Higher degrees of hypermetropia are not common, and in such cases the fundus is readily examined either by using the accommodation or by withdrawing a little from the eye under observation; while higher degrees of myopia are best studied by the indirect method. Unnecessary lenses, besides adding to the weight, complexity, and cost of the instrument, constitute a real and serious obstacle to its use. Often the ophthalmoscopist sees by glimpses. The position of the light, the ophthalmoscope, and the observer's eye must be adjusted to the patient's position before the first glimpse can be obtained; and whenever the patient moves the process of adjustment must be repeated. If the process of adjustment be prolonged by the necessity of running through a long series of lenses to select the proper one, it may be scarcely completed and the first glimpse obtained before it has to be again repeated.

Now, by long and frequent practice it becomes possible to make these adjustments very rapidly and automatically, and

also to observe at a glance the condition of the parts under inspection, so that the ophthalmoscopist in constant practice finds the use of his instrument easy and satisfactory, even though it be of a somewhat complicated pattern. But the student or practitioner who has not this perfect familiarity with the process finds every additional difficulty of adjustment a very serious hindrance.

For this same reason it is highly important that the *lenses be most conveniently arranged*, so that the whole series is easily and quickly available when once the illumination of the fundus has been secured. They should be mounted in the Rekoss disk used in most refraction-ophthalmoscopes, or in slides such as I have proposed for the purpose (Trans. Amer. Ophthal. Society, 1885, p. 111). The choice and the arrangement of the lenses are the especially weak points in the Liebreich ophthalmoscope, with which probably more medical men have essayed the practice of ophthalmoscopy than with any other one form of instrument. It may not be without interest to mention that one of the first attempts to improve on the Liebreich was made in this city over twenty years ago. At the instance of Dr. Charles H. Thomas, through whose courtesy I am able to show this instrument, Queen & Co. modified the common Liebreich ophthalmoscope by mounting the mirror in a hard-rubber handle and placing the lenses in a revolving disk behind the mirror. This is of course practically the Rekoss disk, but in this case the name is inappropriate, for Dr. Thomas got the idea not from the work of the Dutch optician who seems to have immortalized himself by his addition to the ophthalmoscope, but from the revolving diaphragm-plate of his own microscope.

Another requirement is, *the aperture in the mirror should be small*, to lessen the circles of diffusion when ametropia cannot be exactly corrected, and especially to secure a sufficient illumination of the fundus through the undilated pupil. Our popular American ophthalmoscopes have a mirror-aperture of from three and a half to four millimetres. This is none too large in an instrument used for the accurate measurement of the errors of refraction, where it is desirable to emphasize rather than suppress the circles of diffusion. On the other hand, many European modifiers of the ophthalmoscope have chosen smaller apertures, thereby reducing the value of their instruments as refraction-ophthalmoscopes, but making it much easier to study the details of the fundus with them.

The inclined or tilting mirror should be used. Practised ophthalmoscopists find it more convenient and satisfactory, and to those less accustomed to the use of the instrument it is of much greater importance; less, perhaps, for its theoretical advantage of having the plane of the correcting lens perpendicular to the axis of vision, than for the greater ease in keeping the fundus properly illuminated. As a rule, the tilting mirror has heretofore been confined to the more costly and elaborate refraction-ophthalmoscopes. There is one exception to this rule that merits notice. In 1882, Dr. Baumeister described a form of opththalmoscope presenting no features of especial importance to the ophthalmic specialist, and hence as yet little known outside of Germany. Through the aid of Queen & Co., who have imported it, I am able to show a specimen of this form of instrument. Its special advantage is, as you see, a mirror tilting either way to an angle of twenty-five or thirty degrees. The aperture of the mirror is but two and a half millimetres. It has also a good series of seven lenses arranged in a Rekoss disk. Moreover, this instrument is sold for but little more than the old Liebreich ophthalmoscope. This matter of cheapness is not unimportant for an instrument that is to aid in generalizing the practice of ophthalmoscopy. Despite the importance of thorough equipment for professional work, the cost of a good instrument keeps many from making its practical acquaintance. Its deterrent power is especially felt by the recent graduate, just when the hospital and dispensary opportunities and comparative leisure in private practice offer him the best and perhaps the only chance for gaining facility in the use of the instrument, and just when the insight it gives into vital processes would be of the greatest value.

But, as in Baumeister's ophthalmoscope, *cheapness should be secured by simplicity, never by poor workmanship.* In no instrument of diagnosis, not excepting the microscope, is perfect workmanship more important. There is none in the use of which mechanical imperfections are so se-

rious a hindrance. And good construction includes more than the general strength and durability of the instrument. It in-

cludes thin lenses, freedom from reflections at the sight-hole, a spring-catch to centre accurately the lens in use, mounting the lenses so that they can be readily cleaned and kept clean, and other details which might seem unimportant, but which all help to determine the ease and satisfaction with which a given instrument may be used.

To recapitulate: the physician who does not undertake the correction of exceptional anomalies of refraction needs an ophthalmoscope simply but well made, with a few well-chosen lenses conveniently arranged, and a tilting mirror with a small central aperture or sight-hole. When the use of such an instrument becomes more or less familiar to well-trained physicians engaged in all branches of medical practice, we shall be able to appreciate better the debt of the physician to the inventor of the ophthalmoscope.

CHIEF MEDICAL PURVEYOR J. H. BAXTER, M.D., has been designated by the President Acting Surgeon-General of the Army, Surgeon-General Murray having been retired on age.

TWO CASES OF EXTENSIVE EXTRAVASATION FROM TRAUMATIC RUPTURE OF LARGE BLOOD-VESSELS.

BY LAMBERT OTT, M.D.,

Physician to the Out-Door Department of the German Hospital, Philadelphia.

MRS. R., tripped by a fold of the carpet, fell, striking her right shoulder. I saw her a few hours after the accident and found the shoulder-joint swollen, the least attempt at motion causing intense pain. I gave ether, and diagnosticated a dislocation of the head of the humerus into the axillary space, with separation from its shaft by a transverse fracture of the surgical neck. I made an effort to effect reduction of the displaced parts, but failed. I then placed the arm in the most favorable position for the fracture to unite, with the intention of afterwards establishing a new articulation if necessary.

On the second day after the accident a marked ecchymotic discoloration appeared just above the upper angle of the axilla and gradually extended over the right breast, involving its upper three-fourths; thence over the sternal surface and left breast, involving its greater part. This hemorrhage occupied a period of twelve days. While the ecchymosis was appearing in the left breast, the upper third of the arm on its inner aspect began swelling and discoloring, and just as the hemorrhage had ceased travelling on the chest, it ran down the inner side of the arm and extended to the fingers' ends, lasting in all twenty-four days. The tenseness of the ecchymotic parts began subsiding, and no further hemorrhage took place. While the bleeding was progressing, especially over the chest, the radial and ulnar pulsations were in the beginning not perceptible, and later quite feeble. The temperature of the extremity was lowered. While the hemorrhage was progressing down the arm the blood on the chest was being absorbed.

In six weeks after the accident nearly all traces of the hemorrhage had disappeared, but over the spot where it first made its appearance there remained a hardened lump, which disappeared only after many weeks. I discovered no bruit or pulsation. She made a fair recovery, the fracture united, and the arm gained limited motion.

This case was evidently a laceration of

an artery, produced probably during my attempt at reduction, or by the primary accident. Was it the axillary artery? When we consider that the radial and ulnar pulsations were in the beginning not perceptible and later only feebly pulsating, we are justified in thinking that this artery was injured. But would it be possible for such a spontaneous recovery to take place? I predicted an unfavorable ending either by suppurative inflammation and septicæmia, or by the hemorrhage sacculating and forming an aneurism.

Case II.—Cabinet-maker, aged 45 years, slipped on the ice and fell on his side. He quickly got up and walked thirty squares to his home, thinking himself unharmed by the fall. Ten minutes after reaching his home, while seated at the table, he felt a sudden, sharp pain in the outer middle third of the thigh, and when he attempted to get up to go to his bed he was unable to walk. He suffered severe, continuous pain the following night, occasionally having intense exacerbations.

I saw him the morning after the accident, and found a large, hard, tense swelling on the outer side of the middle third of the thigh, faintly fluctuating, very painful, and extending a length of seven inches; reaching within two inches of the knee-joint. The posterior border of the tumor terminated abruptly, owing to the obstruction offered by the intermuscular septa of the fascia lata dipping between the vastus externus and biceps muscles. The thigh could not be moved, owing to the painful tension caused by the tumor.

Drs. O. H. Allis and Bissey saw the case in consultation, and concurred with me in the opinion that the tumor was due to hemorrhage from a ruptured vessel. I ordered rest and compression by a bandage. The next morning the swelling had extended to the knee, simulating the swelling of synovitis. There was no discoloration over the tumor.

On the fourth day ecchymotic discoloration appeared over the anterior tibial surface of the leg, and extended as far down as the ankle. At the same time the tension of the tumor began to subside, probably owing to an outlet having been found which caused the leg-discoloration. He gradually improved till the tenth day, when a local elevation of temperature and fluctuation became more marked. Fearing suppuration, I cut down on the tumor, turned out eight ounces or more of clotted blood, washed out the cavity, and closed the wound. The cavity was next to the shaft of the femur, between the bone and the overlying muscles. Its length was six inches, and its breadth three inches. After two weeks of absolute rest and compression, he made a good recovery, only having severe neuralgic pains of the anterior tibial nerve.

This was evidently a rupture of one of the larger veins, due either to direct concussion or to sudden muscular strain in his effort to preserve his balance. The pulsations of the anterior and posterior tibial arteries were normal. He was a strong, healthy man, and the degree of debility ensuing seemed disproportionate to the severity of the accident.

BLOOD CATHETER.

BY DE F. WILLARD, M D.

MANY a physician has been foiled in his attempt to empty a bladder of urine by the persistent clogging of the eyes of the instrument with coagula, whenever even slight difficulty of entrance has been encountered.

The instrument represented by the accompanying cut has been put to thorough and practical tests, and has proved itself to possess the following advantages in all cases where trouble is expected during introduction, or where even slight hemorrhage is probable.

1. Its eyes are two or three times the ordinary size.

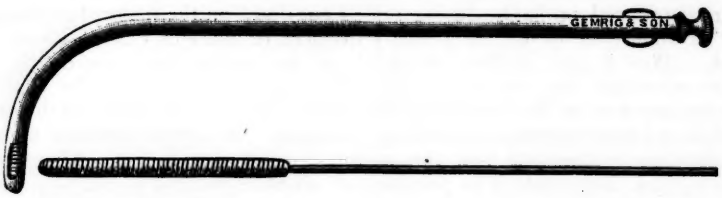
2. It is carried into the bladder with the eyes closed, thus preventing choking of the apertures during the slow and often difficult passage along the urethra or through the neck of the viscus.

3. The obturator or plug can be rotated *in situ* or slid backward and forward so as effectually to clear the openings.

4. The rapid withdrawal of the obturator loosens the clots by suction.

5. The obturator can be reintroduced and manipulated as frequently as necessary, without the slightest injury to the patient.

6. If desirable, injections into the bladder can be made through it, or a Bigelow Evacuating Apparatus can be attached to remove large accumulations of blood or of clots in the bladder.



The instrument as made for me by Gemrig, of Philadelphia, is of any desired size, the apertures being large, and the interior of the tube being accurately filled with a sheet-metal spirally-coiled obturator or plug, which is very flexible and moves easily in all directions.

TRANSLATIONS.

Freire's Prophylactic Inoculations for Yellow Fever. — M. Rebourgeon communicated to the Société de Biologie the results of his observations and experience with regard to the preventive inoculations against yellow fever practised with Dr. Domingos Freire at Rio Janeiro, and according to his method. The months of December, 1885, and January of this year were extremely hot in Brazil, and the yellow fever had raged with unprecedented intensity. Of three thousand and fifty-one vaccinated subjects in the city of Rio not one died, while in the same quarters and in the same houses two hundred and seventy-eight non-vaccinated persons perished. He claimed that the number of vaccinations had reached six thousand, and not one inoculated person had succumbed to the scourge. Moreover, in seven cases in which inoculations were made at the second period of the affection cure was complete. The number of strangers who submitted to the treatment were relatively small. Native Brazilians and mulattoes were the principal sufferers, while full-blooded negroes, though less severely than the others, were not rarely attacked. In reply to a question, he stated that foyers of infection were observed at an elevation of more than seven hundred metres.

In the discussion following this paper, M. Maurel made the important observation that diet might be a predisposing cause of yellow fever. The negroes at Guadeloupe who are engaged in the hospital and adhere to the Creole régime (almost exclusively vegetable) were not attacked, while their comrades outside, who lived upon the same diet as their masters, were frequently seized. Evidently the animal regimen favors the development of the disease. This opinion was held by some of the old writers, and, as experience has shown, with good reason.—*Le Progrès Médical*, No. 22.

Lactic Acid in Tuberculous Ulceration of the Larynx.—The favorable reports of Mosetig-Moorhof on the action of lactic acid in fungous caries and lupus vulgaris, and the subsequent application of the same remedy by Krause to the treatment of ulcers, induced Dr. Theodor Hering, of Varsovia, to employ it in the hospital under his care. He found it very beneficial in tuberculous ulceration of the larynx, in applications commencing with a ten-per-cent. solution, and increasing as the case progressed to eighty per cent., or even the pure acid. Out of twenty cases of which details are given, four were completely cured, two almost cured; four were greatly relieved; six were functionally improved; and only four were not benefited. The results were the more striking since the patients were not under the best hygienic conditions. Where pain was caused by the applications, cocaine was found to prevent it. An ingenious instrument is figured with which he made the applications to the larynx.—*Annales des Maladies de l' Oreille, du Larynx, etc.*, July, 1886.

Iodol in Ophthalmic Practice.—A paper by M. Trousseau was read at the June meeting of the Société de Thérapeutique at Paris, upon the use of iodol in ocular therapeutics. This agent, which is in the form of a gray powder, contains about eighty-five per cent. of iodine. In chronic blepharitis and resulting conjunctivitis it has given the best results. The following is used in preference to the ointment of the yellow oxide of mercury:

℞ Vaselin,
Iodol, āā g. x. M.

—*Le Progrès Médical*, No. 26.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 21, 1886.

EDITORIAL.

THE CAUSES OF FEMALE STERILITY.

THE excellent work of the late Dr. A. K. Gardner,* of New York, the suggestive and original essays of Dr. Matthews Duncan,† and, above all, the epoch-marking book of the lamented Sims,‡ comprise nearly all of value that has been written in English upon the causes and treatment of sterility in women. From German gynæcologists a considerable number of contributions to the subject have appeared within the past ten years. The most complete, systematic, and practical of these is a monograph of one hundred and eighty-six pages by Dr. E. H. Kisch,§ who is a professor in the University of Prague and chief physician to the famous Marienbad Springs in Bohemia. According to the author, sterility depends upon one of these three general conditions:

1. Inefficient ovulation.

2. Prevention of the fructifying contact between spermatozoa and ovule.

3. Inability of the uterus to secure the development of the ovum.

Professor Kisch defines sterility of the female as "that pathological condition in consequence of which a woman during the period of sexual activity fails to become pregnant, notwithstanding frequent and normally-completed sexual intercourse."

The statistics of Duncan, Ansell, Simpson, and Kisch show that the average proportion of sterile to fertile marriages is from twelve to fifteen per cent.

In fruitful marriages the first child is born within fifteen months after the wedding in nearly two-thirds of the cases; while the first confinement is delayed beyond the third year of married life in less than five per cent. Hence the author considers himself justified in fixing the period at which a married woman who has not borne children is to be considered as sterile at three years after marriage. He fails, however, to take account of that pretty large and evidently growing class of married people who are wilfully sterile. Such cases necessarily vitiate all the statistics bearing upon this question and render them untrustworthy.

Sterility necessarily results when the ovaries are absent, atrophied, or insufficiently developed. Early marriages (before the twentieth year) appear to be less fruitful than those entered into after the latter year. After thirty, however, the percentage of sterility increases again. The figures given to show the unfavorable influence of early marriages upon the fecundity of the woman do not seem, however, to bear out absolutely the conclusions of Kisch.

Diseases of the ovaries (cystic degeneration, oöphoritis, syphilis, new formations) may cause sterility, but not necessarily.

Corpulent women are sterile in a large proportion (nearly one-fourth) of cases. The sterile condition of corpulent women is evidently connected with the frequency of amenorrhœa (deficient ovulation) among this class. The exact relation between corpulence and menstrual irregularities is, however, not understood.

The influence of heredity upon the production of sterility is shown in the cases called in England "only-child sterility." The female offspring in such a case can have little hope of experiencing the joys of maternity.

As regards the behavior of the uterus

* The Causes and Curative Treatment of Sterility. New York, 1856.

† Fecundity, Fertility, Sterility, etc. London, 1871.

‡ Clinical Notes on Uterine Surgery, New York, 1866, and "Memorial Edition," 1886.

§ Die Sterilität des Weibes. Vienna and Leipsic, 1886.

during the act of coition, Kisch is inclined to believe that a free secretion of alkaline mucus normally takes place from the cervical glands, which promotes the mobility of the spermatozoa and facilitates their entrance into the uterine cavity. He also thinks it probable that during the stage of orgasm the uterus descends in the pelvis, the cervix becomes rounded, the os uteri and the uterine ends of the tubes dilate, and, after expulsion of the plug of tenacious mucus which fills the cervix, the semen is drawn into the cervical canal. The spermatozoa then make their way through the uterine cavity into the tubes, where they encounter the ovules and impregnation takes place.

Inflammatory and other pathological processes in the pelvis, whether affecting the organs of generation or their adnexa, may cause sterility. Conical and stenosed cervix uteri, uterine displacements, hypertrophy of the cervix, subinvolution of the uterus, cervical and corporeal catarrhs, latent gonorrhœa, lacerations of the cervix, new formations or malformations of the uterus, vagina, or external genitals, may all prove hindrances to normal contact of spermatozoa and ovule, and thus prevent fecundation. A case is quoted from Hennig, where hydrocele of the round ligament existed; after operation upon the hydrocele, the woman (who had been sterile fourteen years) conceived. Kisch has also observed several cases in whom excessive accumulation of fat in the vulva, with pendulous abdomen, proved obstructions to effective coitus.

Urinary fistulæ must also be regarded as causes of sterility. Kroner has reported sixty cases of fistulæ, in only six of whom conception followed after the accident. Sterility is also a frequent consequence of vaginismus and other pathological states of the external genitals.

Qualitative alterations of the vaginal and uterine secretions may render fecundation impossible by destroying the vitality of the spermatozoa before these can reach the ovule.

Kisch believes that active participation in the sexual act by the woman is necessary to conception. He states that dyspareunia* and sterility are so frequently combined that the etiological connection between them cannot be denied. In forty sterile women examined by him with reference to this point, dyspareunia was present in thirty per cent. He instances in support of the view that voluptuous feeling is an important aid in furthering conception the fact that, in the majority of instances, sexual enjoyment is only gradually developed in women. In consequence of this gradual development of sexual feeling, conception does not usually take place until some time after marriage. The time of first conception, he claims, usually coincides with the awakening of this voluptuous sensation in woman. "Thus the capacity for conception is only developed after a sufficiently long practice of the act of copulation"! (P. 105.) This rule, if it be a rule, is one with many exceptions.

Masturbation and other unnatural methods of satisfying the sexual desire are also accused of being causative of sterility; but it seems with insufficient reason. These practices are so frequently the accompaniment of other pathological conditions of the sexual organs that it is impossible to ascribe the morbid influence to any special one of them.

An analysis of 3127 cases collected from Mayer, Kammerer, Mondot, V. Grünewalt, Levy, Kulp and Jaquet, L. Meyer, Sims, Beigel, and Kisch, shows that the physical causes of sterility in women are proportionately as follows: uterine, peri-uterine, and ovarian inflammations in 40 per cent.; uterine displacements in 40 per cent.; structural defects

* The author uses this word in its strict etymological sense: *dys* = bad, and *pareunos* = a bedfellow. The signification usually given to it by authors is painful or difficult coitus.

and ulcerations of uterus and cervix in 16 per cent.; uterine tumors in 7 per cent.; vulvitis and vaginitis (including gonorrhœa) in 2.6 per cent.; corpulence* in 1.8 per cent.; ovarian tumors in 1.2 per cent.; vaginismus and atresiæ of vagina and hymen in 1 per cent.

The therapeutics of female sterility must be deferred for consideration until another occasion.

TWO ADDRESSES ON MEDICINE.

AMONG the papers of the universally-lamented Flint was fortunately discovered the complete manuscript of his address which he, as the representative and exponent of American medicine, had been invited to deliver before the British Medical Association at its meeting which has been held during the past week. For the first time in the world's history, the honor of delivering the Annual Address on Medicine before the British Medical Association has been conferred upon a physician of the United States; and, lo! there are two! With our Christian liberality we have, when asked for our coat, given our cloak also.

The first address, prepared but not delivered, has been published in a handsome monograph containing a phototype portrait of Professor Flint, its title being "Medicine of the Future."† This Address, which with commendable foresight had been completed, as if in anticipation of the sad event which forever silenced his voice, has with reverent hands been given to the profession by his son. In it the veteran professor first indulges in a retrospective glance over an experience of half a century as a practitioner and medical teacher.

Looking forward from the stand-point of his personal experience, the distinguished author expresses with much confidence his belief in the glorious destiny of medicine. Part of his argument is expressed as follows (page 2): "I assume that medicine, as it is to-day, will not remain stationary. In everything relating to human knowledge, anticipations have no basis other than that of experience. The past history of medicine shows a law of progress: hence medicine will continue to advance. I shall view this conclusion, however, from another and a higher standpoint. If we believe in an overruling Creator and Governor of the universe, everything, however great or however small, must be in accordance with a divinely-ordered plan. Diseases doubtless have their uses, some of which are apparent to human comprehension. The prevention and the successful management of diseases also enter into providential design. The past gives an assurance of progressively increasing security of human life from diseases. The progress of medicine belongs, therefore, to the order of Providence."

A closer examination of the prominent characteristics of the last half-century led him to believe that it is particularly in the departments of microscopical research, biological chemistry, bacteriology, and the applications of electricity to diagnosis (telephone in auscultation, etc.) that its advance might be anticipated. Clinical experience, after all, is the only solid basis of therapeutics. He believed that good reason would be found in the future for a more frequent resort to the practice of venesection than at present. By its abandonment under the pressure of public opinion a useful measure of treatment has been given up, but "the time will come (and that ere long, for it is now foreshadowed) when it will have its proper rank among therapeutic agencies. Physicians will take advantage of the promptness and efficiency of its effect in certain conditions of disease, and will observe a certain con-

* Kisch: 58 out of 250 cases. The other observers mentioned did not report corpulence as a cause in their cases.

† Published by D. Appleton & Co., New York, 1886. Printed on extra heavy, toned paper, bound in cloth. 8vo, pp. 57.

servatism as regards its potency for harm as well as good. To carry out the principle of rejecting remedies because they are capable, if used without due discrimination and discretion, of doing harm, would be to emasculate the materia medica. A remedial agent can have but little value if it be not capable of acting injuriously as well as usefully. In the ability to employ potential agencies so judiciously as to secure their good and avoid their evil effects lies the secret of true success in the practice of medicine."

Among the immediate problems of pathology he cites the gastric and intestinal glands, whose physiological functions are so active and important that their diseased states offer a vast field for future clinical research. The thyroid body, the lymphatic glands, and the supra-renal capsules must have important physiological functions not yet ascertained, and corresponding importance in pathology.

In conclusion, some thoughts are offered concerning medical literature, medical instruction, and the medical profession of the future. Advocating monographs upon special subjects in the place of comprehensive, systematic treatises upon medicine, he predicts "that didactic, except as complemental to clinical, teaching will be more and more restricted, and perhaps at length be entirely discontinued, recitations and the study of books taking its place. Laboratory-teaching is henceforth an essential part of medical instruction." The practice of medicine, he hoped, may not hereafter be so closely interwoven as hitherto in the popular mind with the use of drugs. While specialism is rendered necessary by the steady increase in knowledge, its demoralizing effects are fully recognized, and higher professional feeling recommended as the only successful means of opposing the tendency to withdraw the specialist from the common interests of the profession.

The Address in Medicine which was delivered by John S. Billings, M.D., LL.D., Surgeon U.S.A., was upon the special topic of "Medicine in the United States and its Relations to Co-operative Investigation."*

Dr. Billings first considers the subject of medicine in the United States, the population of which he finds nearly twice as well supplied with doctors, of various kinds, as England and Wales. With regard to the standard of education of medical practitioners, which has been declared to be too low, he justly states that the requirements of various sections of the country differ widely in their conditions, and consequently in qualifications and requirements for medical practice; that the professional rewards also are far from uniform; and that in general the people get the kind of doctors that they demand and are willing to pay for. He further declares, "In all our cities, great and small, there is a large class of physicians who are as well educated, and as thoroughly competent to practise their art, as can be found in the world." The efforts which have been made to secure legislation upon medical matters have come from the profession itself, and have been chiefly urged and recommended by physicians. If many of our medical laws remain a dead letter upon our statute-books, it is because of the indifference of the public; for all efficacious legislation must be in accord with public opinion, since it is impossible to continue to punish for any length of time that which public opinion does not condemn. Our efforts, therefore, must first be directed to the accumulation of evidence which the people can understand, and which will thoroughly convince them that it is to their interest to suppress quackery; and it is necessary to go slowly and allow such evidence to accumulate.

The methods adopted in different States, particularly in Alabama and Illinois, were

* The *Boston Medical and Surgical Journal* of August 12 contains the full text of this interesting address.

next considered, and also the indirect though important relations of the United States government to medical practice, through its Examining Boards for Army, Navy, and Marine Hospital Service, the Pension Service, etc. He also referred to the potential value of the National Board of Health, the work of which it is hoped will be resumed, with some change of organization, at no distant day.

The second part of Dr. Billings's address is devoted to the direction or manner in which we have reason to hope that medicine will be developed in the United States, and the kind of co-operation in medical research which may reasonably be expected from it. For laboratory work and bibliographical research this country has unequalled facilities in the Johns Hopkins, Carnegie, and Vanderbilt foundations, and in the library of the Surgeon-General of the United States. In geographical pathology and vital statistics much may be expected from the physicians of this country: to illustrate this the lecturer called attention to diagrams, based upon statistics furnished by the last census, as to the relative mortality from cancer, consumption, and pneumonia to the whole number living in different parts of the country, for the year 1880. Against a decadence which has been predicted to succeed the present era of intense thirst for knowledge, the only remedy is an increase of the world's stock of knowledge and wisdom.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

July 23, 1886.

THE elections which have just come to an end have been very fatal to the medical candidates. Four of the medical practitioners who sat in the last short-lived Parliament have lost their seats, and no new candidate has been successful. Mr. Lawson Tait suffered a crushing defeat in Birmingham, while Surgeon-Major Everett was about as unfortunate in Woolwich as Dr. Alfred Carpenter in Bristol. Mr. Ernest Hart declined to stand again for Mile-End, and the prudence of this resolve was amply proved by the defeat of the gentleman who took his place, in spite of influential backing and the personal assistance of Mrs. Gladstone. Mr. White polled less than thirteen hundred votes, against over fourteen hundred obtained by Mr. Hart, who had to contend against exceptional difficulties, inasmuch as a second candidate of the same political party was in the field. Dr. Balthazar Foster, whose defeat at Chester by a narrow majority has so excited Mr. Gladstone's ire, was fast making a reputation in Parliament, and his disappearance is a real loss; as, however, he is an influential member of the neo-liberal organization, his return to parliamentary life is only a matter of time. He is the Chairman of the Council of the British Medical Association, and was therefore able to speak with peculiar authority during the debates on the Medical Law Amendment Act, which is one of the few measures upon which the last Parliament could agree. The Act belongs essentially to the Whig type: there is a great deal of talk about reform and very little performance. One of the results will be that we shall have a contested election this autumn for certain seats on the General Medical Council: every registered practitioner resident in Great Britain and Ireland will be able to vote, and there will probably be no lack of candidates. The main duty of the General Medical Council is to keep a correct register of all persons qualified to practise in this country. Under the new Act, persons holding foreign degrees in addition to English, Irish, or Scotch diplomas will be able to register their degrees, and it will be permissible also to register the Certificates in Sanitary Science granted by the universities and colleges.

A paragraph which first appeared in Mr. Labouchere's newspaper, *Truth*, has been copied into some medical papers in the United States: it refers to a recent examination at Oxford conducted by "three learned dons" at which only one candidate, eventually unsuccessful, presented himself. The tone of this paragraph appears to show that the bitter opposition which the proposal to organize a medical school at Oxford had to meet has degenerated into mere factious fault-finding. The fact is that the new faculty has only been legally constituted within the last few months, if indeed the legal formalities are even yet complete, that the physiological laboratory is barely finished, that the anatomical department is lodged in small temporary premises, and that in truth the school cannot be really said to begin its career until after the long vacation.

From some curious statistics compiled by a writer in the *British Medical Journal*, it would seem that the medical men who hold Oxford degrees are of peculiar eminence:

no less than thirty-two per cent. of the whole number are teachers in medical schools or hold prominent positions. The proportion among Cambridge graduates is 25.7 per cent., among London graduates 13 per cent., and among Dublin graduates 10.8 per cent. The general average for the ten British Universities (with over ten thousand medical graduates) is 5.2 per cent. How far these figures are to be trusted it is impossible to say, but they are probably approximately true, and confirm the general impression which is got by daily experience.

An association of general practitioners has been formed in order to improve the relations between consultants and general practitioners. It is complained that a patient who goes to consult a physician, a surgeon, or a specialist is very often lost to the general practitioner who had previously attended, and it is alleged that there are consultants who habitually take advantage of their opportunities in order to detach patients from their former attendants. There are, of course, two sides to the question. Many general practitioners appear to regard a proposal to obtain a second opinion in the light of an insult; patients who become aware of this betake themselves to the physician or specialist of their choice without mentioning their intention to the general practitioner, or the existence of the general practitioner to the consultant; others who know that they suffer from a disease or morbid tendency deliberately prefer habitually to obtain the advice of some distinguished authority on the subject. Undoubtedly there are many black sheep; the struggle for existence is very keen, and the fees taken by leading physicians and surgeons are absurdly low; young men, therefore, beginning life in London find it very difficult to make a living out of the profession, and too many yield to the temptations which beset their paths. It may be doubted, however, whether an attempt to boycott all physicians or surgeons who see patients without the intermediary of a general practitioner will have any good effect: by cutting off the hope of obtaining true consulting-practice it will confirm the waverers in their doubtful methods.

In the last letter addressed to you mention was made of a case of traumatic epilepsy, in which Mr. Victor Horley had trephined the skull and excised the scar. He has since performed a similar operation upon a case of tumor of the brain. The patient was a young man subject to one-sided epileptic fits: it was noticed that the fits began in the thumb, and, though there was no optic neuritis or other sign of cerebral tumor, Dr. Hughlings Jackson thought that it would be justifiable to cut down on the cortical centre for the upper limb. Mr. Horsley and Dr. Beeven had been making an experimental study of the arm-centre in monkeys, and their paper had just been read before the Royal Society. They had been able to subdivide the centre into three areas: stimulation of one of these produced movements which began in the thumb. This area might therefore be spoken of as the thumb-centre, and in the case above referred to Mr. Horsley trephined over the area which he believed to contain the thumb-centre in man; immediately beneath the hole made by the trephine he found a tumor; he enlarged the trephine-hole and excised the tumor. By Dr. Jackson's wish he also excised the whole of the thumb-centre. The wound healed in five days, and the patient had no untoward symptoms. It is, of course, too soon yet to express any opinion as to the ultimate result of the operation as to the epilepsy. The apparent cause of the fits has, however, been removed without endangering the life of the patient, and that alone would be sufficient to establish the justifiability of the operation.

At the annual meeting of the British Medical Association, which begins at Brighton on August 10, Mr. Horsley will read a paper on these two cases and on the general subject of the Surgery of the Brain. The paper will be illustrated by a great many cuts, models, and photographs; and, as Drs. Hughlings Jackson, Ferrier, and Hughes Bennett have promised to speak, an interesting discussion may be anticipated. The meeting at Brighton is likely to be very successful: it is within easy reach of London, accommodation is plentiful, and the attractions many. Sir Andrew Clark has chosen a most practical subject, and his paper on cases of disease of the valves of the heart in which the lesion has been known to be present for upwards of five years without producing serious symptoms is sure to excite much interest; Sir Henry Thompson's paper on suprapubic lithotomy, and the discussion on the alternatives to craniotomy, which will be opened by Dr. Robert Barnes and continued by, among others, Professor Porro, and that on removal of the uterine appendages, introduced by Dr. Savage, of Birmingham, and to which Mr. Lawson Tait and Dr. Imlach will also contribute, are likely to wean many visitors from the holiday delights which the profession in Brighton are preparing for their delectation.

There is a slight epidemic of diphtheria prevalent at the present time. A good many cases have occurred in South London, and in consequence there has been an unusual number in the wards of Guy's Hospital, which is by no means adapted for the treatment of zymotic diseases. A young lady who had entered about a fortnight earlier to learn nursing contracted the disease and died, and the students have not escaped. The Metropolitan Asylums Board, a public body created to deal with epidemic diseases in London, though ready and able to undertake the management of diphtheria, is not allowed to do so, and as by a curious piece of bad law-making the power of designating what diseases shall

be considered infectious was left to the Privy Council,—that is to say, to a few lay clerks in a government office,—it is almost hopeless to expect that any alteration will be made until some serious catastrophe raises public indignation to fever-pitch.

Guy's Hospital has been singularly unfortunate during the last few years. The school was much injured by the long quarrel about the nursing of the hospital; then came the sudden death of Dr. Hilton Fagge, a most able teacher; next Dr. Mahomed died of enteric fever; and now this week we have news of the extremely sudden death of Dr. Walter Moxon, one of the most brilliant pathologists who has been connected with the institution. As Dr. Wilks, who was the senior physician, resigned in the spring in spite of all efforts to retain his services, the school is now much weakened on the medical side. W.

PARIS.

NOTES on New Remedies.—M. Heckel lately read a paper on the "Oil of Guilandina Bonduc" at the Académie des Sciences. It has been known for many years in India, and used with great success in intermittent and remittent fevers. It has been also employed in the French colonies, where it is considered a powerful tonic, and also in other tropical countries, administered either alone or else combined with other drugs, as castor oil, etc. The plant belongs to the Leguminosæ, and the part used is the seeds, which are sometimes called "cats' eyes." The two cotyledons contain forty to fifty per cent. by weight of the fixed oil, which has a strong, sharp, bitter taste and smell, and which no doubt contains its therapeutic principles. Dr. Isnard, who is chief physician to the custom-house at Marseilles, has made a number of clinical trials with this oil in doses of from ten to twenty centigrammes in intermittents, and he considers that it acts with as much certainty as a febrifuge as sulphate of quinine does.

Narceine.—Professor Brown-Séquard calls attention to the properties of this medicament, which has been very little used in Europe since it was discovered by Pelletier in 1832. Most of the medical authors concluded that it had no influence on the system, while others considered it toxic. During last winter, Dr. Brown-Séquard used it on himself, taking it up to the very large dose of one gramme and a quarter daily (twenty grains). He then employed it with the best results in cases of cough with bronchial hypersecretion, acute or chronic. Dr. Laborde spoke of the curative virtues of narceine in whooping-cough, and declared that it was beyond question the best of the opium alkaloids for producing sleep. He could assign no reason why this excellent medicine had been so much neglected, except that it is rather difficult to get it pure. He recommended the following test: Add to its solution one drop of diluted hydrochloric acid, which causes a beautiful blue color. In children it acts so well that it almost completely suppresses the night-paroxysms in whooping-cough. Dr. Laborde gives

℞ Narceinæ, 0.25 grm.;
Syrupis, 500 grm.;
Acidi citrici, q. s. ad solve. M.

Each spoonful contains one centigramme of the narceine, and the dose should be two and a half to three centigrammes. In adults Dr. Brown-Séquard says that we do not need to give more than five to fifteen centigrammes to produce sleep at night on going to bed. M. D'Arsonval, by increasing it until he gave a daily dose of fifty centigrammes, cured two cases of bronchitis which for two months had resisted everything else tried.

Dr. Albert Robin has submitted to the Société Médicale des Hôpitaux the results of his experiments upon a new system of medication adapted to typhoid fever and diseases of its character, in which the organism is encumbered with organic residue in a state of incomplete oxidation. To facilitate the elimination of these matters they must first be rendered soluble; and this was the end in view of the experiments. He employed benzoic acid and the alkaline benzoates. First of all, he gave them to healthy individuals who were submitted to a fixed régime for several days to reach a normal state, and then the remedy was administered, when a notable diminution of urea was found, as well as of all the other solid matters of the urine. We should not conclude from these facts, however, that benzoic acid is a moderator of combustion. What is really diminished is the combustible. After these trials, M. Robin gave benzoic acid to five patients who were down with typhoid fever, and at once the urea and solids increased. Salicylic acid and its salts produced the same results. There are a large number of chemical bodies that become transformed into benzoic acid and fix nitrogen in passing through the economy: such substances as toluene, xylene, propylbenzine, etc. So that here is quite a new mine of medicinal agents that can be of very great service in the course of all febrile diseases that are likely to be complicated with the typhoid state.

Injection of Gaseous Medicaments into the Rectum.—M. L. Bergeon says that this method is based, first, on the principle of physiology established by Claude Bernard, which proves that the introduction of even toxic substances into the rectum is not dangerous as long as the pulmonary elimination is not interfered with. Secondly, the fact has also been proved by observation, that a current of carbonic acid gas, perfectly pure, can be introduced in any quantity into the rec-

tum without danger, if proper precautions are taken.

Starting on these facts, M. Bergeon has tried this therapeutical method in a number of cases, and he first of all reports its results in patients who were suffering with pulmonary phthisis. After trying various substances as a medium, such as the antiseptic liquids, he gives the preference to sulphur mineral water. A current of four to five litres of carbonic acid gas is absorbed by two hundred and fifty to five hundred grammes of mineral sulphur water, and this quantity introduced into the rectum twice in the twenty-four hours. Several days after using the method the following changes were found: 1st, a diminution of the cough almost to suppression; 2d, a profound modification as to quality and quantity of the expectoration; 3d, a suppression of the night-sweats; 4th, a general improvement not only in cases of early phthisis, but also in confirmed phthisis. By daily observation and auscultation it was found that the humid râles seemed to disappear progressively. The results given are so encouraging, in fact, that a series of experiments will be made, and a report will shortly be given of the action of this new therapeutical remedy in a number of other diseases besides phthisis.

A New Emmenagogue, Oxalic Acid.—Formerly, in making a choice among the agents furnished by the materia medica of an emmenagogue, it was considered that the absence of the menses was due to a congestion or inflammation of the uterus; so that rue, savin, etc., were tried, as they were considered to possess some sort of dynamic action that would calm the congestion of the organ; or else it was supposed that the blood by some means had become altered and had been prevented from taking its habitual course; so drugs like saffron were tried, without much better results. Later it was discovered that the menstrual hemorrhage is nothing more than the consequence of ovulation, and there was a revulsion in therapeutical ideas, as the physiological basis had been entirely false.

Suppression of the menstrual flux can be caused by the opposite causes of insufficiency and plethora, action of cold, climate, habit, food, etc., but oxalic acid would seem, from the numerous clinical cases given by Dr. F. Poulet, to act in almost all of the various sorts of amenorrhœa.

It was reported that this agent acts equally well in almost all cases of catamenial difficulty where there may exist a febrile reaction with consecutive inflammation of other organs, and also when there is a hemorrhage, or when there is a suppression caused by a cold, which last is so common. Apiol is one of the few sure remedies left to us for use in amenorrhœa, but it can be used to advantage only when the suppression depends on some nervous cause; but oxalic acid, by the multitude of its applications, suits all cases. Attention is called also by this author to the fact that there exists an antagonism between the action of cinchonia and its salts and oxalic acid. He declares that just as much as oxalic acid favors and provokes the menstrual flow, so does quinine prevent it. So that the last should be a good remedy for metrorrhagia; and indeed Dr. Paulet and those with him consider quinine much superior to ergot in such cases: there is therefore great danger in giving cinchona preparations to women without considering the menstrual period. Oxalic acid has always been considered a very dangerous poison; but it seems to be one of our physiological proximate principles, since in the normal state it is found in the intestinal juice in considerable quantity, and it is now being studied in animals by Professors Armand Gauthier and Mathias Duval. It probably plays an important rôle in intestinal digestion. The following formula has been used as an emmenagogue:

℞ Acid. oxalic., 2 grm.;
Aquæ ferventis, 200 grm.;
Syr. aurantii corticis amaræ, 60 grm.
Sig.—Teaspoonful every hour. M.

In one case the whole of the above was given before the effect was produced; in other cases the menses came on before one-third had been taken.

Medical Clinic by Professor Germain Sée at the Hôtel-Dieu on the Diagnosis of Eruptive Fevers at their Commencement.—"Gentlemen, if there is a diagnosis in which your patients' families will not forgive any error, or even the slightest hesitation, it is just in these eruptive fevers, because experience has taught most mothers all about them: so that I am sure you will all be grateful to me if I can show you clearly the principal symptoms that will permit you to establish with certainty the differential diagnosis in some of these diseases. Let us, then, comparatively examine the eruption in rubeola, scarlatina, and variola discreta, when they commence. First of all, to be acquainted with the moment of the eruption, its evolution and duration, you must have constantly present in your minds the thermometrical curve of each one of these maladies.

"*Rubeola.*—The temperature-record of a case of measles shows in the course of the first day a sharp ascent, going at once to 38.8° C. After this first burst of heat, which might be called the 'fever advertisement,' the thermometer descends on the second day to 38°, and one is tempted to put this first febrile symptom to the account of some passing indigestion or rheumatism that cured itself at once; but the next day (the third day) the thermometer mounts up to 39.1°. In the evening it falls again, but on the fourth day it goes up to 40.2°. The fever is now at its acme, and you will hear

the 'dog's-bark' cough that is characteristic of the naso-laryngo-bronchic disorder, and at the end of twelve hours afterwards the eruption will be seen *on the face* after these four full days of incubation. In the following thirty-six hours the temperature falls quickly, and the fever rapidly finishes by 'defervescence.' So remember that after a total of six days this will be the termination, and also do not forget the sudden fall in temperature after the first 'fever advertisement.'

"*Scarlet Fever.*—Here at first the temperature, which on the first day in the morning was at 37° (normal), rises during that same day to 40.2°, and from the second day—that is to say, within the twenty-four hours from the start—this fever will have developed itself in all its intensity, and the eruption will have appeared. Up to the third day the eruption increases and the fever augments, the temperature going to 40.3°; the fourth day it is still at 40°, and only on the fifth day will it fall to 39.2°, and then descend to 38°, and next day to 37°. This return to the normal that terminates, again, a febrile cycle of six days is effected by *lysis*, as the temperature-curve will show.

"*Variola Discreta.*—The temperature in the first day rises to 39.3°, and one might think that it was the commencement of a scarlatina; on the second day the fever attains its culminating point, the thermometer reaching 40.3°, as in the scarlet fever; but the eruption, in place of appearing in the acme of the fever, does not appear until the third day, when the temperature has fallen to 39.1°, and this eruption is followed at once by a sharp defervescence like that of measles; on the fourth day the temperature falls to 38°. It may happen, however, that from the second day an eruption similar to that of scarlatina will appear, and since it is a source of error you must be warned against it; but notice that in scarlatina the fall of temperature is slow, and only begins *after the third day*, so that if you are called in at the moment the fever falls (that is to say, after the third day) you might conclude, in a case of scarlatina, that the patient was at the declining portion of the febrile cycle, and the eruption had been on already for some twenty-four hours; but if it be variola, the parents will tell you that it has *just come on;* and if it has been watched properly, they will say that the rash came on when the fever was at its highest point, on the second day of the fever. The next day, when the papules come out, the diagnosis will be clear. The second important point that you must always have in your memory, because it too is well known to the mothers, is the place where the exanthem will appear. In rubeola it always commences *on the face*, the papulæ show at first *about the lips*, rarely on the cheeks or forehead, but you must look in the mouth, on the palate, on the tongue and the lips, to find the early eruption in measles: the rest of the body will take it on afterwards gradually, and in about thirty-six hours it will most likely complete the round, when the fever falls. In scarlet fever the eruption often commences on the thoraco-abdominal portion of the body, and comes out on the face later, when you will see on the cheeks and forehead the scarlet patches while around the lips it will be pale. In regular variola the eruption commences also on the face, but the *whole face* is taken up by it, and it remains there for *twenty-four hours steadily* before going to the rest of the body (Sydenham first wrote of this fact), and after the first day of the eruption these facial papulæ become vesiculous, and it then passes to the rest of the body. During the five or six days that the eruption lasts, the evolution of the facial exanthem keeps up its advance over the rest,—that is to say, it is twenty-four hours in advance of the other parts of the body. Sydenham used to calculate the duration of the affection as follows: three days fever, five days eruption, and two days pustulation. If it should follow the regular type, the *swelling of the hands will replace the swelling of the face in eleven days from the commencement of the fever.*

"As to the exanthem itself, you will see in all three of these fevers different characters that should be well known, as they are sometimes indispensable in diagnosis.

"In rubeola you will see on the lips little red points which tend to coalesce and form *semicircular* patches: these are always separated by healthy spots; the inequalities are clearly perceptible to the touch, and they form papular crescentic groups that are characteristic.

"In scarlet fever the eruption commences by enormous patches that take up at once a large part of the trunk, and in these patches you will remark very fine granular red points, that are reposing on the erythematous ground part; there is no grouping here of papulæ in semicircular arches, but it must be remembered that the ground-work will sometimes get pale in color some days after the eruption, and also in hemorrhagic rubeola the red ground will take a violet color.

"It only remains for me to indicate some auxiliary signs, such as in examining the mouth you will sometimes see the eruption in measles accomplish itself in and from the third day, and in scarlatina the desquamation of the skin may occur about the fourth day. Scarlatina is much more serious than rubeola. Not only in France is it to be feared, but also in England and in the United States, where it causes more consternation than diphtheria itself, because there the two are often grafted one on the other.

"Isolation is recommended for scarlatina, which should last for three months; for measles one month is sufficient; but it should not be forgotten that *both of these diseases are contagious from the first day.*"

Eye-Clinics in Paris.—The study of oph-

thalmology here is, without question, rendered remarkably easy owing to the large number of these clinics. It is doubtful if this specialty can be elsewhere so well worked up as it can in Paris. There are over twenty public clinics (in all really twenty-nine of them), conducted by excellent surgeons, who take pleasure in showing students their operations and modes of treatment. The most prominent of these eye-dispensaries are those of Dr. Landolt, at No. 27 Rue St.-André des Arts; Dr. Galezowski, 26 Rue Dauphiné; Dr. Meyer, Rue d'Assas; Dr. Abadie, 172 Boulevard St.-Germain; Dr. De Wecker, etc. All of these are in the school or "Latin quarter," close to one another, and are open every day. The doctors have also private offices for consultations, both at the clinics and in the centre of the city at their homes.

The Paris Faculty of Medicine does not boast of many professors in the specialties, but it does possess in Professor Panas, who is surgeon to the Hôtel Dieu, a most eminent eye-doctor. His clinic is held at the hospital daily, and operations are performed three times a week. The clinic is constantly thronged with patients and students and foreign physicians, following the professor's free teaching. It might be remarked as a curious fact that almost all the oculists in Paris speak English and German as well as their native French.

In former letters we gave the antiseptic treatment and dressing used by Dr. Panas, of the mercuric biniodide in solution, and we may say that the success in its use is constantly increasing. To give a proof, we saw recently a number of cases of enucleation of the eye which left the hospital perfectly well within five days after the operation, without there having been the slightest drop of suppuration.

In reply to a young American surgeon who asked him how often he lost the vitreous in cataract-operation, he said he might almost say it never occurred. M. Panas is strongly of opinion that certain forms of glaucoma can be treated successfully without operation. He uses eserine and physostigmine or pilocarpine as follows:

℞ Eserinæ sulphat., .05 grm.;
Aquæ destillatæ, 5 grm. M.

Or

℞ Pilocarpinæ nitratis, 0.10 grm.;
Aquæ destillatæ, 5 grm. M.

Sig.—Drop a little in the eye several times a day.

The forms of glaucoma that seem to be most benefited are just those in which operation seems useless. The use of the drugs must be prolonged for months.

The French Association for the Advancement of Science gives a list of some of the subjects to be treated upon at the next congress, to be held in August at Nancy. The meeting will be an important one, and many of our local celebrities will be present. We add some of the subjects: "On the Protection of Infants," "Composition of Cow's Butter at Different Periods of Lactation," "Falsification of Oils and Butters," "The Rôle of Pancreatine in the Economy," "Relapse in Typhoid Fever," "On Progressive Pernicious Anæmia," "On the Organization of the Teaching of Hygiene in the Medical Faculties," and "On Conservative Surgery of the Foot."

THOMAS LINN, M.D.

PARIS, July 16, 1886.

LOUISVILLE, KENTUCKY.

WITHIN the month just past there was held at Winchester, in the heart of the blue-grass country, another meeting of the State Medical Society. The attendance was larger than the accommodations of the city were sufficient for, and the interest in the meeting was manifested in the prompt attendance of the visiting delegates at the time set for the gavel to fall.

Many scientific papers were presented, eliciting spirited discussions, a reference to each of which would be an injustice to all. I deem it better, therefore, to write you concerning one very important and interesting subject which was there presented, which may interest your readers. This was the report made by the committee appointed at the preceding meeting to report on Pathology, by Dr. Dudley S. Reynolds, of Louisville, chairman, who spoke nearly as follows:

"Within the past decade we have witnessed the development of an almost entirely new science of pathology. When in March, 1882, Dr. Robert Koch, of Berlin, publicly announced his discovery of the true and only cause of tuberculous diseases in man, the medical world experienced a thrill of joy.

"I take it not one in the medical profession, except it be some member of that class who never make any experimental observations, will now undertake to cast a doubt upon the declaration that tuberculous diseases, whether pulmonary or not, are all due to one common cause,—viz., the presence of a fungus now known as the bacillus of tubercle.

"Tuberculous consumption, then, is essentially a contagious infection. Those who inherit it (and they are by no means as numerous as we formerly supposed) show evidences of that inheritance at the time of birth, or within a few weeks after at most: they either succumb to its ravages or recover from it in infancy. No adult can possibly perish from inherited consumption or tuberculosis. The point I wish to make, in discussing the recent advances in this department of pathological inquiry, is the frequency with which the bacilli of tubercle are found in the upper

air-passages, and the readiness with which they become colonized, so to speak, in exudations of lymph from the Schneiderian and pharyngeal mucous membranes.

"I have observed in a score of recorded cases the presence of the bacillus of tubercle in the lymph of the nasal passages, the pharynx, and in two instances in the middle ear, in persons who had absolutely sound lungs, and who were not tormented with even an occasional cough.

"The reason the bacilli of tubercle are sometimes developed in the upper air-passages and in the middle ear is very plain. It is known that a person with a perfectly sound respiratory membrane, extending through the nose, the pharynx, and on into the bronchi, may inhale the bacilli of tubercle,—that they will lodge in the mucus and remain for a brief period, when they are again expelled by expectoration or otherwise, without showing the least disposition to proliferate. When an abrasion occurs, however, and an exudation of lymph appears, as will occur in persons of the lymphatic diathesis, the choicest medium is supplied for the growth of the fungus. Thus it is that tuberculosis is so easily and frequently acquired. The subject of enlarged tonsils is especially liable to contract tuberculosis because the tonsils, being lymphatic glands, are, when enlarged, generally engorged with the normal contents which accumulate in excess.

"If rupture should take place in the delicate walls of this lymphatic gland, a quantity of lymph appears of course upon the surface, and if tubercle-bacilli inhabit the air such a person breathes, they will likely find lodgment in this lymph and there become colonized. Thus it is we find many persons having chronic inflammation of the nose or pharynx, and even of the larynx, resist all treatment. Imagine, if you will, an exudation of lymph from the tonsil inhabited by the bacilli of tubercle in a person who has at the same time a general excess of lymph in the whole system, with an abrasion somewhere in the nasal passages or in the pharynx from which the lymph exudes. You see how easily the respired air might transmit them so short a distance, and in that way establish several foci of development for these bacilli, and, it might be, the lymph-channels of the whole body eventually become affected from the invasion of the bacilli from these points of abrasion or from rupture in the capillary lymph-tubes.

"The influence exerted by the bichloride of mercury in sterilizing lymph so as to arrest the growth of bacilli is now attracting the attention of the most astute observers, who no longer seek to destroy the bacilli outright, but rather to render sterile the lymph in which they grow, and who trust to other means for the expulsion of superficial colonies or the formation of abnormal connective-tissue walls in the inflamed areola of local tuberculous deposits, thus locking up the most of the mass of tuberculous matter until natural decay seizes upon it, and a precipitation of the earthy salts of the inflamed tissue constitutes the so-called calcification or chalky degeneration of the tuberculized tissue.

"In another branch of pathological research great advances have been made. It is known to every cultivated student of medical literature that typhoid fever is almost uniformly taken into the system with the water. It has been recently observed that a malignant form of the disease known as the hemorrhagic type is fairly traceable to a bacillus identical in all respects with that which infests swine.

"Some recent observations of a very interesting character were made at the pathological laboratory of the Hospital College of Medicine at Louisville. On the 26th of March, 1886, Dr. Frank C. Wilson brought to me a bottle of water, accompanied with a note from Dr. John A. Larrabee which read thus: 'This water is from a well which has been used for drinking-purposes by a family in which three deaths have recently occurred from typhoid fever; to-day there are two new cases in this family,' and requesting an examination of it.

"In the afternoon of that day I proceeded to evaporate as much of this water as would conveniently lie upon a cover-glass previously sterilized. Treating twelve covers in this way, I moistened the residuary matter with fresh egg-albumen taken from an egg broken at the moment of use, and, pressing the prepared surface of another glass upon this, distributed the egg-albumen in as thin a layer as possible; then, separating the cover-glasses by a gentle sliding movement, they were again dried, and stained, some with methyl violet, some with methyl blue (known as Loeffler's fluid), and some with Bismarck brown. All these were mounted in a solution of Canada balsam in benzole. The specimens were studied with the $\frac{1}{4}$ homogeneous immersion objective and the D eye-piece.

"Those stained with methyl violet appeared as beautiful jointed rods curled at the ends, and were present in abundance, the rods being violet red with a line or dot of intense blue in each joint. Those stained with the methyl blue and Bismarck brown were less satisfactorily made out.

"On the 27th of March Dr. Larrabee sent to me a four-ounce bottle filled with putrid matter of a brownish brick-dust color, said to be blood passed from the bowels of a patient who was suffering with a hemorrhagic type of typhoid fever. A small quantity of this blood was pressed between two cover-glasses and treated after Letzerich's method,—stained with methyl violet and mounted in Canada balsam. With the $\frac{1}{4}$ homogeneous immersion objective, an

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abundant collection—in fact, a pure culture—of bacilli identical in every respect with those found in the water from the well were observed. These jointed rods were arranged in chaplets, and appeared not as Rindfleisch describes, as a deep blue, but a violet red with an intensely blue nucleus.

"This discrepancy in color under identical treatment may be accounted for upon two hypotheses. Possibly the methyl violet used was not precisely such as Rindfleisch employed, and, on the other hand, the chromatic properties of the objective with which the observations were made may account for the difference in color. It is certain, however, that precise identity in all respects was established between the bacilli of the dejections from the patient, who was known to have drunk of the water from the infected well, and those obtained from the water from this source.

"Pursuing my investigations further, I found in the water of the cistern in the yard where this unfortunate family lived large quantities of the same bacilli. The cistern was uncovered, and the water in it was within four inches of the surface of the earth; it was situated five and a half feet from the kitchen door. Twenty-two feet from the cistern, on a slightly-elevated surface, was a pig-pen, which was not closed, but into which hogs came to be fed and in which they slept. It was said no hogs had died about the premises, yet there were several dead hogs on the margin of Bear Grass Creek, two hundred and forty feet distant.

"Without stopping to discuss the relations between the various points of infected matter to the outbreak of the disease in the neighborhood, it is certain that the bacillus found possessed all the characteristic features of that which develops the most malignant types of typhoid fever, both in swine and in men.

"Another important matter in which great advances have recently been made is in the study of catarrhal inflammations of mucous membranes. The ophthalmia neonatorum presents certain features characteristic of a violently-inflamed mucous membrane, with tumefaction of the lids and a profuse discharge of a golden yellow or a yellowish cream-colored pus. Yet no naked-eye appearances are sufficient to distinguish the more rapidly destructive forms of that contagious type known as gonorrhœal inflammation from the milder forms, due no doubt in many instances to the lodgment of fragmentary portions of the vernix caseosa between the lids or the accidental introduction of other foreign matter. Neisser has pointed out the means by which the violently destructive and actively contagious types of purulent conjunctivitis may be readily distinguished from the matter furnished by the milder forms. The presence of highly-refracting cocci, spherical in form, and small ones grouped together in little colonies or masses identical with those described by Carpenter as zoöglœa, and the larger bodies scattered about over the field, are characteristics of this virulent pus.

"Treating the suspected pus after the method of Neisser, which consists in pressing the matter between cover-glasses, drying it over a spirit-lamp, staining with methyl blue, passing through oil of cloves, and then mounting in Canada balsam, the gonococci are readily recognized by the practised eye, even with a ⅛ dry objective and the D eyepiece: for differential study, however, higher magnifying power is necessary.

"Many more of the recent advances in pathology might be referred to; but it is deemed sufficient to attract attention to those named, in the hope of enlisting more general interest in the microscopic study of disease-producing fungi."

A very interesting discussion followed, at the conclusion of which the following was adopted, on motion of Dr. Reynolds:

"*Resolved*, That Dr. McCormack, as the representative of the State Board of Health, be appointed the chairman of a committee to transmit to the Board the unanimous desire of the Society for a brief and practical plan by which the public and the profession may be able to secure the destruction of, and determine the mode through which, the bacilli of tubercle are conveyed from person to person, that it may become possible to prevent the danger of permitting these bacilli to escape and remain undestroyed in the air of our public buildings and in our streets and highways." ALLEN H. KELCH.

WASHINGTON.

SANITARY MATTERS IN THE FORTY-NINTH CONGRESS.

SANITARIANS have received scant comfort from the Congress which has just adjourned its first session. The bill for the establishment of a National Health Bureau went to sleep early in the winter. Intended, as it was, to create an office for a sanitary official temporarily out of employment, it lacked sufficient vitality to keep it alive. Its failure will probably cause very little regret.

The bill for the appointment of a commission to study yellow fever, which was introduced by request of the American Public Health Association and endorsed by the American Medical Association and other medical societies, had an excellent opportunity of passing. It had passed the Senate without a dissenting voice, and, in an amended form, was unanimously reported by the Committee on Commerce in the House. Congress recognized the practically unanimous endorsement which the measure received from the profession as well as the press, both professional and lay, throughout the country. Had the bill been allowed to come to a vote upon

its merits, there is no doubt that it would have been adopted by an overwhelming majority. It failed because, under the rules of the House, objection by a single member could prevent its consideration. Throughout the session it was evident that the members of the National Board of Health and their adherents in Congress were inimical to the measure, though no one could understand the reason for their opposition. The prospects of the bill finally dwindled in the last days of the session through the persistent objection of a member of the House from New York, who signalized his presence in no other way during his entire service. The cause of his opposition was a mystery until it was discovered that he was a family connection of one of the members of the Board. By their enmity to this measure the members of that organization invited its own destruction. The Sundry Civil Bill as passed contains no appropriation for the continuance of the Board.

The later history of the National Board of Health is not a creditable one. It was peculiarly the offspring of the American Public Health Association, and started out on its career with brilliant prospects. The parent organization sustained it with all its influence, even under discouraging circumstances, until it became evident that the members of the Board cared nothing for the latter *qua* Board, but were solely interested in perpetuating their own official existence. Some of the members foresaw what was coming and "stood from under" in time, but the others waited until the ruin toppled about their ears, and few will probably waste much sympathy over their final obliteration.

The only drawback is that no legislation on sanitary matters seems probable now for a good many years, unless an epidemic compels it. It is not unlikely that had the members of the Board, who had held office through two administrations, tendered their resignations when the present administration went into office, and given President Cleveland an opportunity to fill their places with live men in sympathy with the new order of things, some provision would have been made for the continuance of the organization. Their selfish obstinacy has placed the prospect for national sanitary legislation farther in the future than it has seemed to be at any time within the last decade. The sole protection of the country against invasion by exotic epidemic diseases now rests with the Marine Hospital Service and a rational local quarantine. Inasmuch as only a few ports have anything like an efficient system of local quarantine, the activity of the Revenue Marine Coast Patrol must be depended upon to guard the vulnerable points. Even at the time of writing this, yellow fever is at the National Quarantine Station at Ship Island, in the Gulf of Mexico, and threatening the central Gulf coast with invasion.

The Oleomargarine Act, which has passed Congress and received the approval of the President, is in a measure a sanitary law, in that it will prevent artificial products from being sold as butter, but in its main features it is a protective act in favor of the dairy industry. Its sanitary bearings had probably no influence in securing its adoption.

Congress has also passed a law requiring instruction in hygiene in the schools of the District of Columbia and in the Territories. The manifest object of the act is to impress upon school-children the deleterious effects of alcohol upon the system. It is doubtful whether the sort of instruction which will be given under the provisions of this law will commend itself strongly to sanitarians.

To-day is the date for the retirement of Surgeon-General Murray, of the army. Dr. Murray, who has served in the medical corps of the army since 1847, has been one of the most popular chiefs the medical corps has ever had. He has earned his retirement by long and faithful service. The best wishes of all who know him will attend him in his private life. It is not yet known who his successor will be, although many guesses are heard.

G. H. R.

August 6, 1886.

PROCEEDINGS OF SOCIETIES.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, THURSDAY, MAY 6, 1886.

The President, B. F. BAER, M.D., in the chair.

(Continued from page 834.)

TAIT ON FARADIZATION.

DR. R. P. HARRIS also presented the following letter from Mr. Lawson Tait, of Birmingham, dated April 16, 1886. "I have very strong objections to the proposal to treat cases of extra-uterine pregnancy by faradization. In the first place, the diagnosis of these cases must always be hap-hazard: that is to say, a correct diagnosis will not be made probably more than once in three times. The result will be that all such cases will be dealt with with mischief only, and I venture to predict that this treatment will be dropped, as all such treatments are, without explanation of the case, in a very short time.

"My greatest objection is that, supposing the fœtus has passed through the stage of tubal rupture and remained alive, what right have you to murder that child? If it goes on to the full term it may be delivered alive, and the woman will have a chance of recovery from the operation far greater than with the faradization treatment of destroying the child. The cases, according to my experience, which

recover from the operation are about six out of seven.

"Every one who has had much experience with pelvic tumors must have seen a certain number of cases where the fœtus has died between the fourth and sixth month, and where, after a prolonged course of suppuration, it comes out through the rectum, bladder, etc. These are, of course, the cases where the tubal rupture has taken place into the broad ligament on the left side. I have seen one right-sided case going into the bladder; it of course killed the patient.

"In the whole course of my life I have known of only one case where the woman has carried an extra-uterine pregnancy for a number of years after the death of the fœtus. We know with perfect certainty all about this case, and for about eighteen years she has carried on the left side a condensed ovum of extra-uterine pregnancy. I doubt very much if there could be found in the whole world three other such cases; whereas the number of cases who die or who have prolonged illnesses after the suppuration and discharge of the fœtus is, even in my own experience, very great."

In closing his letter Mr. Tait writes, "I wish you would make this opinion of mine known on your side."

In reply I will state: 1. We do not in this country practise electrolysis in cases of extra-uterine pregnancy. No puncturing needles are used, and the electro-magnetic current will not endanger the life of the patient any more if the growth to be acted upon is a tumor than if it be, as presumed, an ectopic fœtal cyst. The experience of seventeen years in the United States, in which no fatal result is believed to have taken place, has only tended to establish this fœticidal method as a valuable means of saving women when in great danger from rupture of the fœtal cyst and internal hemorrhage.

2. We do not propose to act upon the fœtus after it has escaped into the abdominal cavity, unless the fœtus should be very small and be easily accessible to the pole of the battery placed in the vagina. We cannot see that it is any more a murder to destroy a two or three months' fœtus after it has escaped from a Fallopian tube by rupture than while it is still in it. The chief objection lies in the fact that such an ectopic fœtus will be much more likely to give trouble after its destruction than one that is securely enclosed in a sac from which the amniotic fluid shall have been absorbed. It is true that an abdominal fœtus may be delivered alive at term if permitted to live; but it is not correct to estimate the risk of such an operation as lower than faradization properly performed; for it is far higher. Primary laparotomy, as far as we know of the operations, has been fatal in fifteen out of nineteen cases.

It is not proposed in this country to operate by faradization upon fœtuses of from four to six months. Dr. T. G. Thomas has, it is true, proposed to make the limit four and a half months; but the general impression is that fœticide is much safer immediately and remotely if done in the second and third months, when fœtal ossification is very incomplete. The entrance of fœtal débris into the bladder is not necessarily fatal, as in the case related by Mr. Tait, for Parry refers to nine cases, four of which recovered.

Mr. Tait appears not to be aware of the fact that cases of prolonged ectopic gestation have been comparatively numerous, as witness the following partial record.

1. Nebel reports the case of a woman of 91 who died in 1767, and in whose body a fœtus was found that she had carried fifty-five years. (Campbell on Extra-Uterine Pregnancy, 1840, p. 45.)

2. Brandt records one of a woman of 80, who died in 1858, after carrying a fœtus for fifty-six years, and bore two children while it was still in her abdomen. (Ranking's Abstract, 1863, vol. i. p. 216.)

3. Parkhurst reports one of a woman of 77, who carried a fœtus fifty-two years. (*British and Foreign Med.-Chir. Rev.*, 1856, vol. i. p. 271.)

4. Chiari gives a case of a patient who died of pneumonia when 82, who carried an eight months' fœtus for fifty years. (*Lancet*, Lond., 1876, vol. ii. p. 141.)

5. Conant's case was a woman of 53, who died in June, 1863, after carrying a fœtus thirty-five years. (*New York Med. Journal*, May, 1865.)

6. Majon found, in a woman of 78, a calcareous fœtus computed at three months. (Cruveilhier, Essai sur l'Anatomie pathologique, Paris, 1816, tome ii. p. 130.)

7. Mangin and Vernier found two fœtuses in the body of a woman of 74, which she had carried thirty-three years. (*Jour. de Médecine*, 1786; *Gaz. Méd.*, July 29, 1837.)

8. Morand also found a three months' fœtus in a woman of 78; she had carried it thirty years. (Mém. de l'Acad. Roy. des Sciences, 1748.)

9. Kristian Grön found a three months' fœtus in a woman of 49, which had been carried eighteen years. (*Norsk Magazin for Lægevidensk*, band xvii. haft 2.)

10. Johannis Ambosi (1582) reported a case of a woman of Sens, who carried a fœtus twenty-eight years. (See Astruc, Traité des Maladies des Femmes, Paris, 1765, tome iv. p. 78.)

11. Campbell reports the case of a woman of 75, in whom was found a fœtus that had been carried thirty years; a fœtus of about two months was also found. (Campbell on Extra-Uterine Gestation, Edin., 1840, p. 55.)

12. Pepper relates the case of a patient of 53, married twenty-seven years, in whose body Dr. Loder found two fœtuses, one car-

ried twenty-three years. (Trans. Pathol. Soc. Phila., 1876, p. 102.)

13. Francis Bayle removed an eight-pound fœtus after the death of a woman of Toulouse, that she had carried twenty-six years. (Philos. Transac. abrid., London, 1794, vol. iii. p. 222.)

14. Cruveilhier, in his Anatomie Pathologique, gives a plate representing a calcified fœtus which had been carried many years.

15. Œlinger reports the case of a woman who carried a six-and-a-half months' fœtus about fifteen years. (*Prog. Méd.*, Paris, 1884, vol. xii. p. 196.)

16. Johnson's case, aged 68, carried a fœtus fourteen years, after which she discharged fœtal remains at intervals during thirty years. (*Med. Times*, Lond., 1872, vol. i. p. 655.)

17. Leinzell, in 1720, removed from the body of a woman of 94 a fœtus that she had carried for forty-six years.

18. Watkins examined a woman of 74, who died of kidney-disease January 13, 1866, and removed a fœtus which she had carried for forty-three years. (*Brit. Med. Jour.*, March 3, 1866.)

19. Van Swieten also records the case of a woman of Lyons, who died at 68, and had carried a fœtus for twenty-seven years (*opus cit.*).

20. Fabri, of Ravenna, found in a woman of 55 a fœtus she had carried for some years. The pregnancy was her fifth, and she bore two children at later periods. (*Brit. Med. Jour.*, March 7, 1863.)

Many more cases of the same character might be added to this list, some of which would go to show that an extra-uterine fœtus may prove fatal by purulent disintegration and pointing after twenty years or more. Even an ectopic fœtus of three months may cause perforation of the rectum and possibly a fatal issue, although this is a rare result. It will be noticed that in three of the twenty-one cases the fœtus was computed at three months, and in another a second fœtus was of two months.

Dr. O'HARA exhibited a

FIBRO-CYSTIC TUMOR OF THE UTERUS,

removed after death from a patient æt. 53 years, who had carried it for over twenty years. Three years after it was first observed she applied to Dr. Atlee for relief by operation; but he declined, and recommended that it should be left alone. The tumor contained numerous small cysts, measured thirty-nine and a half by thirty-four inches in circumference, and weighed thirty pounds. The peritoneum was one-fourth inch in thickness, and was of a yellowish-white color.

Dr. PARISH remarked that the tumor had formed no adhesions, with the exception of a few slight ones to the omentum, and the removal of the ovaries and tubes would have been feasible at any time. Both tubes were dilated and in a condition of hydrosalpinx. The tumor sprang from the fundus uteri, the cavity measuring only four inches. The tubes and ovaries had remained at their normal position in relation to the uterus, but had been elevated out of the true pelvis. The vagina had been stretched upward, as also had been the uterine body and neck. The uterus below the fundus had diminished in size to about that of the index-finger. The bladder, by reason of the traction upward, had lost its attachments to the uterus, and merely retained posteriorly its attachment to the vagina. Ordinarily, the extent of the attachment of the bladder to the uterus becomes greatly increased in large uterine fibroids. In the specimen submitted, supravaginal amputation of the uterus with the tumor could have been effected without separation of the bladder from any of its attachments. It is interesting to observe the condition of bilateral hydrosalpinx some six years after the menopause. The patient died with acute symptoms of vomiting and purging of dark fluids, containing probably blood extravasated through the intestinal walls. At the autopsy no indications of perforation of the intestine were apparent. The patient was able to engage in active work until a few days prior to death, and hence the double hydrosalpinx could not have occasioned pronounced symptoms.

W. H. H. GITHENS,
Secretary.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

SEMI-ANNUAL CONVERSATIONAL MEETING, APRIL 22, 1886.

The Vice-President, JAMES TYSON, M.D., in the chair.

DR. GEORGE A. PIERSOL read, by request, a paper on

MEDICAL PHOTOGRAPHY.

The character of photographical work which the medical man may probably desire to undertake may be divided into three groups: first, photographing specimens; second, photographing patients; third, photographing microscopical specimens; to which possibly a fourth should be added, making lantern-slides and enlargements for the purpose of illustrating lectures. As to outfit, all of these requirements must be borne in mind. At the present time, possibly the best equipment for medical work would be one of Walmsley's modified copying cameras, as manufactured by the American Optical Company, taking a $4\frac{1}{2} \times 5\frac{1}{2}$ plate, fitted with a first-class lens. Regarding the latter, those desiring the best might limit their choice with advantage to the lenses made by Ross, Dallmeyer, or Beck. Personal experience with the Beck lens warrants a most favorable recommendation, as its superior qualities adapt

it admirably to work requiring fine definition with great focal depth. As a matter of economy, the excellent lenses of Darlot might be substituted for the higher-priced English glasses. As much less expensive, the "Waterbury" outfit (camera, lens, and tripod costing but fourteen dollars) is worthy to be considered. The addition, however, of a light wooden extension is imperative to obtain sufficient length of bellows to reproduce specimens of a normal size, a matter often desirable. A lens adapted for medical work would be a rapid rectilinear combination of about 8½- or 9-inch equivalent focus, a shorter focus-lens possessing insufficient focal depth. In addition to the camera and lens, a simple dark-room outfit—embracing non-actinic lantern, three trays, graduate, dust-brush, light-proof box for opened packages of plates, and a few tubes—is necessary. Proper illumination is essential for satisfactory results. An evenly-distributed top-light is most desirable. This can be obtained readily from a sky-light; such a convenience, however, is frequently wanting. An excellent substitute may be readily had by removing the apparatus to the open air and stretching over all a piece of muslin, thus providing a mellow, evenly-distributed top-light admirably adapted for photographing specimens. In focussing, the use of a focussing-glass is advantageous. Focus without the diaphragm on a point lying midway between the extremes of the planes of the specimen: afterwards put in the smallest stop (say No. 128 F. = 45.2 English scale). The small stop necessitates a rapid plate unless the exposure is unduly prolonged. A fast plate and small stop, when properly employed, yield pictures with the best possible definition and great focal depth, qualities very essential to satisfactory representations of specimens. In order to insure acceptable results, a correct exposure should always be attempted. The length of exposure depends upon many conditions; among others, actinic power of the light,—this being modified by sunshine or clouds, by time of day, and by season of the year,—color of the specimen (a tissue deeply dyed with blood requiring much greater exposure than the alcohol-bleached organ), character of the sun, size of diaphragm, sensitiveness of the plate, strength of the developer. Since these all modify the duration of any individual exposure, the oft-heard comparisons as to the bare numbers of seconds given upon various negatives are of very little importance. Each worker must determine for his own conditions the exact number of seconds required on the ordinary specimen, and, with this as a basis, meet changing conditions as the occasion demands. While there are many excellent formulas, the following developer has always answered admirably: with it, by slight modifications, all kinds of work may be satisfactorily performed.

No. 1.

℞ Pyrogallic acid (Schering's), 1 oz.;
Sodium sulphite, 6 oz.;
Water, 48 f℥.

No. 2.

℞ Sodium carbonate, 4 oz.;
Water, 48 f℥.

No. 3.

℞ Sodium bromide, 1 drachm;
Water, 1 f℥.

Use equal parts of No. 1 and No. 2 with three to five drops of No. 3 as a normal developer, the entire bulk of the developer being say three fluidounces. Remember No. 2 accelerates, while No. 3 retards development; No. 1 giving density. A plate is fully developed when the deep shadows show some detail, and when the cardinal outlines of the picture show on the back of the plate with reflected light. The most usual failures result from over-exposure and under-development. When a plate blackens rapidly, without the requisite amount of contrast between the high lights and deep shadows being at first present, we may strongly suspect over-exposure. Pour off the developer, flood with water, and then proceed once more with a developer to which say twenty to thirty drops of No. 3 have been added. The remedy for under-development is evident. Strongly to be emphasized: select a good brand of plate, choose a reliable developer, and only change when there exists a strong reason for so doing. By this plan alone can the peculiarities and valuable qualities of any plate be learned. In addition to these fixed conditions, by at first employing but one lens and a single diaphragm the path of the tyro is greatly smoothed. In photographing a patient, if possible, a sky-light should be used; when, however, none exists, we can succeed fairly in any well-lighted room, preferably one having two side-windows. Opposite to window No. 1 and about four feet removed we place our subject almost parallel, facing the second window. The lower half of window No. 1 is covered with muslin, while over the upper half is partly drawn the shade. Window No. 2 (farthest removed from the patient, but towards which he looks) is unobstructed. The camera is placed somewhere near the second window. Some simple background should be improvised, and the darker side of the subject should be lighted up by a reflector of white muslin. Since the actinic power of light is immensely reduced within-doors, our exposure would be unduly prolonged if we used the smaller diaphragms; we are therefore usually compelled to use the larger ones, Nos. 8 or 16.

Photographing microscopical specimens requires a camera with a long bellows,—twenty-four to thirty inches. This may be had by

adapting to the front of an ordinary camera an extension, which may be readily constructed of wood, cardboard, or tin. The inner surface of the entire track of the light from the objective should be lined with black paper with matt-surface. Any microscope admitting of a horizontally-placed tube, with a good stage and centring sub-stage, may be employed. Likewise any objective possessing good definition and flat field may be used. The eye-piece is best removed, the camera and microscope being united by simply inserting the draw-tube into the extension of the camera and wrapping the joint with a few turns of some black fabric. Illumination is very important. Four sources may be considered: lamp, calcium, electric, and sunlight. Calcium and the arc electric lights, while quite satisfactory by way of experiment, are practically debarred by the expense and inconvenience attending their use. The incandescent electric light at the present time offers little advantage over good lamplight and is far inferior to sunlight. It may be stated, once for all, that sunlight properly employed is the best possible illuminator for photomicrography. As it requires some care in its employment, and above all the devotion of the busiest hours of the day, we may inquire what can really be accomplished by lamplight. Mature consideration and considerable experience justify us in saying that with care and proper manipulation really good photographs may be made with powers up to the one-sixth. Of course very much higher lenses may be employed, even the one-fifteenth and one-sixteenth; but thoroughly satisfactory lamplight work with lenses approximating one thousand diameters is seldom if ever seen. One thing seems demonstrated beyond question: that with any power it is almost impossible to obtain the soft but brilliant micronegative—full of detail and vigor—that sunlight is capable of yielding. For lamplight, a lamp with a single moderately broad wick should be employed, the edge of the flame being turned towards the object. For very low powers, three to one and a half inch, no condensing lens is necessary. With higher powers, the interposition of a four-inch-focus plano-convex lens is advantageous; and with still higher lenses (say from the two-thirds up) some sort of substage condenser in addition is almost imperative. After many experiments with various forms, a "B" eye-piece as a condenser seems to yield the best results, giving a powerful and evenly-distributed illumination. Accurate centring and even distribution are of the utmost importance. First centre the substage condenser. Avoid "pushing" the illumination, as when the centre is racked too high the margin of the field is distorted. Experience teaches the advisability of using a slow "clean-working" plate (say Carbutt's "B") in preference to the very rapid brands. A mirror placed at the end of the work-table opposite the ground glass of the camera is of great assistance in adjusting illumination. A small hand-glass is also convenient to reflect the picture when hunting fields. The most important as well as difficult manipulation is focussing. With a short "pull" no especial requirements; but when a long camera is extended, removing ground glass to three or four feet, some arrangement of moving adjustments is necessary. The simple arrangement with cord and weights which we devised eight years ago, and which has of late become extensively used, we still recommend as meeting all possible requirements. It has been put to the severest tests with powers of over three thousand diameters, and never has been found wanting either in delicacy or accuracy. A modification may be applied to the coarse adjustment. A focussing-glass is indispensable: the point of most accurate focus is where the image seems to melt into the ground glass. Preparations must be well differentiated and thin, possessing sufficient contrast and actinic opacity. In certain cases, by using glass of a complementary color to the stain, excellent results are obtained. While lamplight suffices for low powers, yet for the high powers and for difficult work such as bacteria sunlight is by all odds to be preferred. By arranging a simple mirror to swing laterally and vertically we can substitute the necessity for a heliostat. Light from this mirror passes through a plano-convex lens of eight inches focus, through a cell of ammonio-sulphate of copper to the substage condenser. Here again accurate centring and evenly-distributed illumination are absolutely essential for good results. To those aspiring to the best results, especially with difficult subjects and high powers, a trial of sunlight is strongly urged, as by this illumination alone are many of the capabilities of photomicrography rendered possible.

Succeeding his address, the lecturer exhibited on the screen about fifty examples of various kinds of work. Nearly half of these were photographs of pathological specimens; the remainder were photomicrographs of histological and pathological preparations, taken with objectives giving from the lowest to the highest amplifications, among which an admirable photograph of the bacillus tuberculosis attracted much attention.

Dr. T. D. Dunn presented

AN UNUSUAL CASE OF CORTICAL HEMORRHAGE, WITH RHYTHMICAL CONTRACTIONS OF THE LEFT SIDE OF THE BODY.

A widow, æt. 73 years, came under his care June 23, 1886, with the symptoms of congestive apoplexy. In a few days she recovered sufficiently to be able to leave her room. With the exception of some mental impairment for several months before the attack, her health had been good. February 6

there was a second attack during the night, and when Dr. Dunn saw her there were regularly recurring movements of the left side of the body. Sensation and consciousness were not affected. The right side of the body could be moved at will, but articulation was impossible. The contents of bowels and bladder were discharged involuntarily. The movements continued during sleep. The movements gradually diminished, being lost in the leg on the fourth day, and in the arm on the fifth. She died six days after the attack. At the autopsy a clot as large as a hen's egg was found situated on the right side of the brain, very superficially extending from the ascending parietal convolution to the occipito-parietal fissure, and from the convolution of the longitudinal fissure to the temporo-sphenoidal lobe. The convolutions pressed upon and partially destroyed were the ascending parietal, the convolution of the longitudinal fissure, the supra-marginal and the angular.

Dr. F. A. Packard presented a patient having

A CONGENITAL ANOMALY OF BOTH HANDS.

The right hand consists of a thumb, an index, and a little finger, with only two metacarpal bones. The thumb has two phalanges, and articulates with the same metacarpal bone as the index finger. The power of flexion is absent. The index finger has three phalanges. It can be flexed as a whole, but the individual phalanges are fixed. The little finger has three phalanges. The left hand consists of a thumb, index, ring, and little fingers, with four corresponding metacarpal bones. The patient is one of five children. His mother and father are normally formed. One sister has one hand that resembles his left. Another has a left hand similar to his, and on the right hand has the middle and ring fingers united throughout their length. One brother has both hands similar to this man's left. The only member of his generation not deformed is his twin brother. He has several children, all normally formed, and so, too, with his nephews and nieces.

Dr. J. M. Barton presented

A TUMOR OF THE STOMACH REMOVED FROM THE BODY OF A MAN ÆT. 47 YEARS.

His digestion became impaired two years ago, and soon afterwards he noticed the tumor. The symptoms were mainly those of chronic gastritis, with at one time a profuse hemorrhage. The tumor was hard and well defined, and occupied the epigastric region. At the autopsy the tumor was found occupying the upper portion of the pyloric outlet of the stomach, and did not encroach enough on the outlet to prevent the ready passage of a finger. It was found on microscopic examination to be a scirrhous carcinoma.

W. E. HUGHES, M.D.,
Recorder.

REVIEWS AND BOOK NOTICES.

LECTURES ON DISEASES OF THE NERVOUS SYSTEM, ESPECIALLY IN WOMEN. By S. WEIR MITCHELL, M.D., etc. Second Edition, Revised and Enlarged, with Five Plates. Philadelphia, Lea Brothers & Co., 1885. Octavo, pp. 283.

Of this well-known work it is unnecessary to do more than point out the changes which distinguish the present from the first edition. Some of the earlier lectures have been altered, occasionally by omissions, but more frequently by additions. Thus, the chapter on hysterical tremor and chronic spasms has been much enlarged and separated into two chapters, additions have been made to that on vaso-motor and respiratory disorders in the nervous and hysterical, while entire new chapters have been added on hysterical joints and hysteria and organic diseases of the spine. The paragraph at the end of chapter xii., on defecation in hysteria, has been expanded into a chapter, and everywhere through the book the touch of revision is seen. Like all Dr. Mitchell's books, this is pleasant reading, and has especially the effect of making the diagnosis and treatment of nervous diseases seem "not so very difficult, after all," to the uninitiated.

ESSENTIALS OF VACCINATION. A COMPILATION OF FACTS RELATING TO VACCINE INOCULATION AND ITS INFLUENCE IN THE PREVENTION OF SMALLPOX. By W. A. HARDAWAY, M.D., Professor of Diseases of the Skin in the Post-Graduate Faculty of the Missouri Medical College, St. Louis. St. Louis, J. H. Chambers & Co., 1886. Duodecimo, pp. 146.

This little volume is not intended to be a comprehensive treatise on vaccination, but it is excellently compiled, and may well take the place of more ambitious treatises on the table of the practitioner. The various chapters on the History of Vaccination, Variola in Animals, Nature of Vaccinia, Vaccinia in the Human Subject, Abnormal Modifications and Complications of Vaccinia, Revaccination, Different Kinds of Virus and Methods of Obtaining and Storing them, The Operation of Vaccinating, and, finally, Examination of the Objections to Vaccination, though compendious, are sufficiently full, and contain just what is required to bring a practical man up to the times and to give a hurried man the information wanted on the spur of the moment.

THE ANNALS OF HYGIENE.—This monthly journal has been made the official organ of the State Board of Health, and is now engaged in publishing the papers read before the late Sanitary Convention. It is well conducted and handsomely printed, and ought to be worth in health-hints many times its cost to any intelligent family.

NEW REMEDIES AND CLINICAL NOTES.

TREATMENT OF DIPHTHERIA. — Dr. M. Ware, in a paper read before the Dakota Medical Society, gave the following outline of treatment. To overcome the tendency to putrefactive changes and the formation of poisonous alkaloids, and to neutralize their effects after they have been formed, are the principal objects to be accomplished. Oxygen, in the form of fresh pure air, is the first essential. The surrounding premises, as well as articles of food and drink, should be carefully looked after. Where milk is used, it should be boiled unless it is known to be pure. Alcohol and common salt are the best agents to use, both externally and internally, to arrest putrefaction. Swabs he does not regard as of much use, and discards them in favor of a douche, from a Davidson syringe, of warm (120° to 125°) salt water, the solution containing ten to fifteen grains to the ounce, with which the throat and mouth are thoroughly washed every two hours. The water need be made only 102° to 105° for use in the nasal passages, and the solution should be only one-fifth as strong. Iron, brandy, and lime-water are used from the beginning. If the nurse has a few spare moments, she is instructed to give a little more brandy. The tincture of the chloride of iron is used. Lime-water and milk are given at regular intervals. For the renal inflammation (albuminuria) he gives the oil of yellow sandal-wood, in ten- to fifteen-drop doses every four or six hours. No attempts should be made to remove or destroy the membrane. The main dependence in treatment would be iron, brandy, and table-salt. All dejections should be thoroughly disinfected, and as much care taken by physicians as in a case of smallpox during and after the disease.—*Dakota Medical Brief.*

THE SALICYLIC TREATMENT OF GLYCOSURIA.—In the *Brit. Med. Jour.*, May, 1886, p. 816, Dr. Sinclair Holden remarks that the recent researches of Professor Latham on the pathological connection between diabetes and rheumatism have given a fresh impulse with regard to the treatment of these diseases. Two distinct kinds of diabetes are recognized: 1, that which arises from a neurotic disturbance of the function of the liver, so that the glucose passes unchanged through the liver and appears in the urine; 2, that which arises from a neurotic disturbance of the function of muscle, so that glucose is formed in that tissue and passes into the circulation, and then into the urine. This second kind of diabetes is intimately connected with rheumatism; it only requires a degree more or less of oxidation to determine whether the muscular tissue generates an abnormal amount of lactic acid or of glucose in the system. It has been shown by Dr. Latham that salicylic acid has the power of arresting the formation of both lactic acid and glucose. Dr. Holden contributes notes of six cases of glycosuria occurring in rheumatic patients, all of which were cured by giving salicylic acid. The first and most marked effect of this treatment in the glycosuria of rheumatic patients is the almost complete removal of the distressing polyuria. The dose of salicylic acid should be from ten to fifteen grains three times a day. In cases of diabetes where no rheumatism exists, no benefit is obtained from taking salicylic acid.

MISCELLANY.

THE MUNICIPAL LABORATORY AT THE URBAN HYGIENIC EXHIBITION.—The Paris Municipal Laboratory is well represented at the exhibition of urban hygiene now open at the Jobau barracks. The arrangements made allow every one interested to follow minutely the work done and the progress made by this useful institution. The analyses made by the municipal laboratory are on an average 16,500 yearly, of which there are 7000 specimens of wine examined, and 4500 of milk. The service includes a chief, an assistant chief, two principal chemists, twenty-three assistant chemists, twenty inspectors, and four clerks. The hygienic importance of water-investigations is now universally admitted. This laboratory practises the biological test in water-analysis, based upon the culture of microbes in gelatin. These cultivations are made in flat-bottomed conical glass bottles: two tubes are placed in the cork, one with a glass top and the other plugged with cotton-wool. The process commences by rendering the bottles sterile in an iron stove capable of resisting two atmospheres, and large enough to contain one hundred and fifty of these receptacles. This stove is exhibited, as well as its vapor-generator, which is utilized to distil water for laboratory use. Ten c. of gelatin are subsequently introduced into the bottles, which has been sterilized at a temperature of 105–110°; and they are now ready for use. At the moment they are required for use the gelatin is liquefied by means of slight heat, and the water to be tested, diluted with a sufficient quantity of pure water, is poured through the tube provided with a tap. The gelatin solidifies in the process of cooling. The receptacles are arranged in a large metal chest with glass doors, in which the temperature is maintained invariable by means of a thermo-siphon. The bacteria develop and give birth to colonies, which form as many spots as there are bacteria contained in the volume of water used. Wine is more care-

fully superintended by the laboratory authorities, and more tested at the laboratory than any other substance,—a fact arising partly from the number of wine-shops in the capital, and partly from the facility with which wine can be adulterated by dishonest tradesmen in order to increase their profits. At the exhibition, whosoever wishes to do so can witness the series of operations to which the wine analyzed is submitted. First, the density is taken by means of a Houdart's ombarometer, the quantity of alcohol it contains is determined by distillation in an apparatus in which four wine samples can be tested at the same time by means of an ebullioscope, an instrument founded upon the difference existing between the two forms of boiling, that of water and that of alcohol diluted with water. At the municipal laboratory department of the urban exhibition there are different models of these instruments,—those of M. Malligand, Dr. Périer, and M. Armagat. There is also exhibited a particular kind of pipette which fills automatically, and serves to measure exactly twenty c.c. of wine; also the different methods of testing, which serve to determine the proportion of extract, of ashes, of tartar sulphate and acidity. The proportion of extract is determined in flat-bottomed cylindrical platinum capsules, which are warmed in special water-baths; they are afterwards left to cool in drying-cages before being weighed in precision scales. The extract is ascertained by allowing the wine to evaporate in a vacuum obtained by different means. The extract is then incinerated in a large gas-stove (*fourneau à moufle*), and the ashes are then weighed. The proportion of sugar is ascertained by Fehling's test; the proportions of acidity and tartar are ascertained by reagents of unvarying strength contained in bottles of a special form. Color-intensity is determined by Duboscq's chronometer, founded upon the comparison of light which has travelled up to different heights in the fluid. After wine, of which Paris consumes 1,400,000 litres a day, the most important substance is milk, of which the consumption is about 250,000 litres. The different processes in the analysis of milk are also exhibited. The density of the milk is first examined by the lacto-densimeter, then the cream is allowed to rise and its height measured by the creamometer by means of a pipette analogous to that used for the wine analysis; then ten c.c. of milk are measured and introduced into the flat-bottomed platinum capsules. This milk, evaporated at 95° in an iron stove, gives the extract, which is weighed and incinerated. A fresh sample of ten c.c. is then introduced into one of Marchand's lacto-butyrometers and mixed with pure alcohol; it is then heated in a special water-bath, and the height and quantity of butter which is separated are thus marked, and therefore easily estimated. Preserved vegetables are frequently colored green by using copper; it is not necessary here to discuss the question of their harmlessness, and we will only give a description of the little electro-apparatus employed to separate the metallic copper from the copper dust.

The Municipal Laboratory does not only practise chemical methods for solving the many problems submitted to it, it also verifies the purity of alcohol and oils by means of a refractometer, which is brought to such a degree of perfection that it determines without calculation and in a few minutes the co-efficient of the refraction of fluids. The density of coffee and all groceries is determined by a new volumenometer, which is easily used. A special apparatus is used for extracting from those articles of food substances which are soluble in alcohol and ether. A special kind of spectroscope is used; a table showing the spectrum of absorption of the principal coloring-substances, due to the researches of MM. Ch. Gérard and Pavot, can be consulted. The microscopic preparations of adulterated food-preparations are photographed by a magnificent apparatus. Numerous specimens obtained from the archives of the laboratory show that excellent results have been obtained with flour, pepper, vegetable sections, and diatomaceæ. A part of the exhibition is set aside for apparatus for making gas-analyses, such as drying-machines, gas-extractors for sewage; also several other instruments for estimating the density of gases, either by the quickness with which they escape or according to M. Charcot's method.

THE EARLY DIAGNOSIS OF UTERINE CANCER.—Professor Palmer, of Cincinnati, in a paper read before the Academy of Medicine of that city gave his views upon this important topic, as follows. Cancer is a disease three times more frequent in the uterus than in any other organ of the body. It is occurring with increasing frequency. This increase is largely apparent, the result very naturally of improved methods in diagnosis and more frequent examinations.

The benign affections which may be confounded with cancer are chronic inflammation, eversions, granular and cystic degenerations, and ectropium.

Nothing can be easier than the diagnosis of most of the benign diseases of the cervix uteri; nothing can be plainer than the determination of the presence of advanced cancer of this part of the uterus, by far the most common site. It is of vital importance that we recognize a malignant disease early if we would do any radical or permanent good, and mistakes are most generally made in the earlier stages of the disease.

For practical purposes he divided the subject into two parts:

1. The form of cancer simulating or con-

founded with parenchymatous or fibrous benign disease of the cervix.

2. The form of cancer mistaken for, simulating, or simulated by endometrial benign disease.

Probably the origin of cancer begins in a degeneration of the connective-tissue cells, either under the mucous membrane on the vaginal face of the cervix or up within the cervical canal, while the epithelial growths or ulcerations first invade the superficial epithelium. A carcinomatous infiltration arising within the connective-tissue cells of the cervix at once heightens the vascularity of the part, which looks reddish or bluish in color. It produces nodulations more or less hard, and diminishes the mobility of the subjacent mucous membrane. Should these changes start in a cervix previously healthy, or so little diseased as to excite no special attention, they progress so insidiously, it may be slowly, that in all probability the patient will not call on her physician until the second or ulcerative stage has advanced; or should they commence in a cervix already diseased by chronic inflammation, one that is being inspected for treatment from time to time, they may even advance to a considerable degree before any special suspicion is excited. The general health may be good or bad. The author thought that in most instances a diagnosis could now be made. The one thing needful is that a suspicion of malignancy be aroused. The symptom of Spiegelberg is not as reliable as was first supposed. Much can be learned by watching the development of treatment. It may be observed that while all the local conditions (leucorrhœa, erosion, induration, etc.) do improve under a well-directed local treatment, provided they are the offspring of an inflammation, yet if malignant they do not improve at all, and if so but slightly, never permanently. They manifest a special obstinacy to treatment; in fact, they progressively get worse. In women of advanced years such development should excite the gravest suspicions. If any doubts now remain, resort should be made to the microscope. I doubt if the microscopist can give us a reliable opinion without any other clinical evidences at hand, but with them the microscope becomes strongly corroborative and confirmatory. Fungoid degenerations may remain for a long time innocent formations, yet, on the other hand, they may quickly develop into malignancy. This transformation may be exceedingly slow, consuming years. This is important to remember, so that we may not be thrown off our guard. Unquestionably, malignant epitheliomatous degeneration is more likely to ensue in cases of cervical laceration in which the torn surfaces never cicatrize. Cicatrization, however, is not a barrier. The author recommended the use of the microscope and all other means of diagnosis, and thought the topical applications of glycerites of tannin, alum, and boracic acid to be of especial benefit in diagnosis.

TEST FOR DRINKING-WATER.—A German newspaper has published an account of an apparently simple test for drinking-water, "invented" by R. Otto, a pharmacist of Quedlinburg. It is a solution which, poured into a tumbler of the water to be tested, should leave it quite clear for two or three hours. In bad water a gelatinous, transparent film will be formed on the surface within two hours. This reminds Dr. Hager that he published just such a test in 1871. He proposed a tablespoonful of a clear solution of tannin to be added to a tumblerful of water. If no turbidity occurs within five hours, the water may be considered good. If turbidity occurs within the first hour, the water is unwholesome. If turbidity is displayed within the second hour, the water is not to be recommended. Previously, in 1866, Dr. Hager had recommended for travellers, as a precaution in cholera times, the addition of the following solution (thirty drops to a litre) to any water they might be about to drink:

Tannic acid, 5 parts;
Syrup, 4 parts;
Distilled water, 6 parts;
Spirit of wine, 12½ parts.

HYSTERICAL AMAUROSIS.—Dr. Castellarnau publishes the following case of hysterical amaurosis in the *Boletin de Hidroterapia* of Barcelona. A lady, aged 32, married, without children, of nervous temperament and weak constitution, had suffered from hysteria from a very early age. While working with a sewing-machine she noticed that for some reason it stopped, and, stooping over it to discover the cause, she pricked herself with the needle in the left superciliary region. She was very frightened, and thought that she had put her eye out. An attack of hystero-epilepsy, such as she never had had before, supervened. On recovering, she found that she was totally blind. No lesion of the eyes could be discovered; but, though she was treated by several medical men, no improvement resulted. She was then transferred to Barcelona for further advice, where, after four months' hydro-therapeutic treatment, she completely recovered.—*London Medical Record.*

THE USE OF TERPINE IN CHRONIC BRONCHITIS.—According to Dr. Rieu (*Gaz. Méd. de Strasbourg;* and *Bull. Gén. de Thérap.*, April 30), terpine, which has neither smell nor taste, can be given at a dose of from one to three grammes daily. It diminishes the expectoration in chronic bronchitis, but has hardly any effect in phthisis. Its action is the same as that of turpentine and creasote, but it is less disagreeable to take, and therefore preferable in some cases.—*London Medical Record.*

NOTES AND QUERIES.

OBITUARY.

PROFESSOR FRANK HASTINGS HAMILTON, M D., died at his home in New York City on the 11th inst., in the seventy-third year of his age. He had been suffering with pulmonary disease for several years, but retained his intellectual faculties until the last moment. He was born in Wilmington, Vermont, September 10, 1813, and was graduated at the University of Pennsylvania in 1833. Although his physical frame was delicate, he soon attained a position in the profession indicating abilities and energy of an unusual order. During the war he rendered important service as Military Inspector. When President Garfield was shot in 1881, it will be remembered, Dr. Hamilton was called in on the evening of July 3, with Dr. Agnew, for consultation and advice, and the former was associated with the case until the President's death. In his profession he occupied a high position. He held the chair of Surgery in the Faculty of Bellevue College, which he resigned in 1875. As a writer on medical subjects he was voluminous, learned, and an accepted authority. Among his best-known works are his treatises on "Military Surgery," on "Fractures and Dislocations," and his "System of Practical Surgery," a new edition of which has recently been issued. He made many valuable contributions to practical surgery.

Among the honorary positions which he held at various periods may be mentioned President of the Medical Society of the State of New York, 1855; President of the New York Pathological Society, 1866; President of the Medico-Legal Society, 1875 and 1876; member of the American Medical Association; Fellow of the New York Academy of Medicine; a founder of the New York State Medical Association in 1884; member of the New York County Association; member of the Society of Medical Jurisprudence and State Medicine; also Consulting Surgeon to Bellevue Hospital and the Hospital for the Ruptured and Crippled; St. Elizabeth Hospital and the Bureau of Medical and Surgical Relief for the Out-Door Poor.

His life was a very domestic one. He was married in 1834 to Mary Virginia McMurtan, of Virginia, and in 1840 to Mary Hart, daughter of Judge O. Hart, of Oswego, New York, who died about a year ago. Two children, Theodore B. Hamilton and Mrs. Daniel Davis, survive him.

DR. WILLIAM R. CRUICE, a well-known and successful physician of the upper part of the city, was accidentally drowned while bathing at Spring Lake, New Jersey, August 15. He had been suffering for many years with Bright's disease of the kidneys, but he had a full physique and his appearance was that of health. He graduated from the Medical Department of the University of Pennsylvania in 1865. He was a member of the American Medical Association and other medical societies. He had many friends, both in the profession and among the laity.

THE editor of the *Journal of Cutaneous and Venereal Diseases*, New York, desires to obtain the expression from the individual members of the profession of their views as to the effects of the use of arsenic in the treatment of skin-diseases: as to what is the extent of its use; what diseases are especially influenced; what ill effects have been noticed; and what preparation is preferred. Replies should be directed as above, No. 66 West Fortieth Street, New York.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 1, 1886, TO AUGUST 14, 1886.

BRIGADIER-GENERAL ROBERT MURRAY, SURGEON-GENERAL, U.S.A.—Retired, August 6, 1886.

MAJOR GEORGE M. STERNBERG, SURGEON.—Granted leave of absence for fifteen days. S. O. 186, A. G. O., August 12, 1886.

MAJOR WILLIAM D. WOLVERTON, SURGEON.—Granted one month's leave of absence, to commence on or about August 15, 1886. S. O. 104, Division of the Atlantic, August 7, 1886.

MAJOR EDWIN BENTLEY, SURGEON.—Ordered from Department of Texas to Department of the East.

CAPTAIN D. M. APPEL, ASSISTANT-SURGEON.—Ordered from Department of the East to Department of Texas. S. O. 179, A. G. O., August 4, 1886.

MAJOR PASSMORE MIDDLETON, SURGEON.—Granted leave of absence until September 10, 1886. S. O. 100, Division of the Atlantic, August 3, 1886.

CAPTAIN R. H. WHITE, ASSISTANT-SURGEON.—Ordered from Angel Island, California, to San Diego Barracks, California, relieving Captain Leonard Y. Loring, Assistant-Surgeon. S. O. 64, Department of California, July 28, 1886.

CAPTAIN LEONARD Y. LORING, ASSISTANT-SURGEON.—Granted leave of absence for one month, on surgeon's certificate of disability, with permission to apply for an extension of two months. S. O. 59, Division of the Pacific, August 2, 1886.

CAPTAIN GEORGE W. ADAIR, ASSISTANT-SURGEON.—Ordered for duty as post-surgeon, Fort Brady, Michigan.

FIRST-LIEUTENANT CHARLES M. GANDY, ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 113, Division of the Atlantic, August 6, 1886.

CAPTAIN JAMES C. MERRILL, ASSISTANT-SURGEON.—Assigned to duty as post-surgeon at Fort Klamath, Oregon. S. O. 130, Department of the Columbia, July 30, 1886.

CAPTAIN ROBERT B. BENHAM, ASSISTANT-SURGEON.—Relieved from temporary duty at Fort Omaha, Nebraska, and ordered to Fort Bridger, Wyoming. S. O. 97, Department of the Platte, August 5, 1886.

FIRST-LIEUTENANT W. E. HOPKINS, ASSISTANT-SURGEON.—Ordered from Fort Lowell, Arizona Territory, to Angel Island, California, for duty as post-surgeon. S. O. 61, Division of the Pacific, August 6, 1886.

APPOINTMENTS:

To be Assistant-Surgeons, with the rank of First-Lieutenant.

HENRY S. T. HARRIS, January 5, 1886.

LEONARD WOOD, January 5, 1886.

WILLIAM B. BANISTER, January 26, 1886.

CHARLES F. MASON, May 5, 1886.

PROMOTIONS:

To be Surgeons, with the rank of Major.

CAPTAIN JOHN H. BARTHOLF, ASSISTANT-SURGEON, January 4, 1886.

CAPTAIN JAMES P. KIMBALL, ASSISTANT-SURGEON, January 24, 1886.
(Mem., A. G. O., August 2, 1886.)

LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FROM AUGUST 1, 1886, TO AUGUST 14, 1886.

SURGEON THOMAS C. WALTON.—To remain on present duty until September 1, 1887.

SURGEON C. H. WHITE.—To remain on present duty until August 21, 1887.

PASSED ASSISTANT-SURGEON C. W. RUSH.—Authorized to delay ten days, under orders to Sitka, Alaska.

PASSED ASSISTANT-SURGEON G. P. LUMSDEN.—Ordered to Hospital, Mare Island, California.

PASSED ASSISTANT-SURGEON L. B. BALDWIN.—Ordered to the U.S.S. "Ranger."

SURGEON J. L. NEILSON.—Detached from the U.S.S. "Ranger," to proceed home and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDING AUGUST 14, 1886.

CARTER, H. R., PASSED ASSISTANT-SURGEON.—Granted leave of absence for thirty days, August 12, 1886.

GLENNAN, A. H., ASSISTANT-SURGEON.—Granted leave of absence for thirty days, August 9, 1886. To examination for promotion, August 12, 1886.

PETTUS, W. J., ASSISTANT-SURGEON.—When relieved at Savannah, Georgia, to rejoin station (New Orleans), August 13, 1866.